

Investment Performance Review
Period Ending December 31, 2018

Washoe County 457 & 401a Plans



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As we start 2019, we first want to say “Thank you” for giving AndCo the opportunity to serve you. On behalf of our entire organization, we are extremely grateful for our client partnerships and we will continue working hard to maintain your trust and confidence. Our mission statement reads – “To represent the sole interest of our clients by redefining independence”. We’re happy to report we remain steadfast in this core belief and continue to build an organization and service model that is singularly focused and independent. This helps ensure all recommendations are truly in the best interest of our valued clients. We believe this approach will drive value for our client partnerships long into the future.

AndCo also remains committed to delivering high quality, customized services. As we start 2019, we are 89 employees strong advising approximately \$90 billion in client assets - both record highs for AndCo. In 2018 we hired 7 new team members including one consultant, two research professionals, one additional compliance officer, one technology administrator and two team members within our client solutions group. All hires were made to better service our clients.

2019 will represent another year of reinvestment in the organization to better serve our clients and make AndCo stronger. For example, we have already hired a new Senior Research Analyst bringing our dedicated research team to 15 professionals. As 2019 progresses, we are targeting additional hires in research, software development, content creation and our client solutions group. We will also be partnering with an external firm this year to conduct an in-depth client assessment to help ensure we are meeting the evolving needs of our clients and exceeding their service expectations. There will be more information regarding this survey from the firm and your consultant over the coming months.

Finally, we just completed our annual Firmwide retreat. This retreat was a great opportunity for our firm to spend time together with colleagues and get a clear understanding of where the company is going, and more importantly, why we’re headed in that direction. Since the inception of AndCo, the idea has been to make the firm a multigenerational organization owned and managed by its employees. As a result, since 2015, along with the strategic elements of our annual retreat, we also started the process of announcing new partners of the firm to foster this succession plan and today we have 8 partners controlling 100% of the company.

The evolution of our firm would not be possible without great partners like you. Our name reminds us who we work for every day: “Our Client” &Co. You will always be first in our service approach. As we continue to discuss updates with our firm, please know every decision is made by asking “How does this benefit our clients?” If it doesn’t benefit you, we don’t do it, it’s that simple. We know our clients are facing many challenges and we want to be there to help get you through all environments. We are honored and humbled you have chosen AndCo as your partner. We don’t take that relationship for granted and will continue to work tirelessly to exceed your expectations.

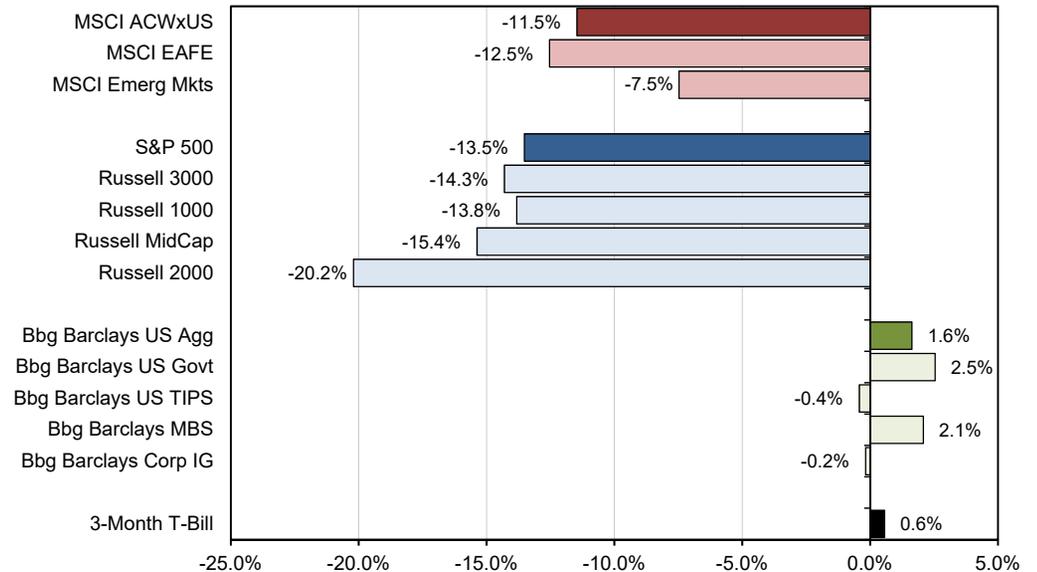
On behalf of AndCo, thank you for your valued partnership and the opportunity to serve you.



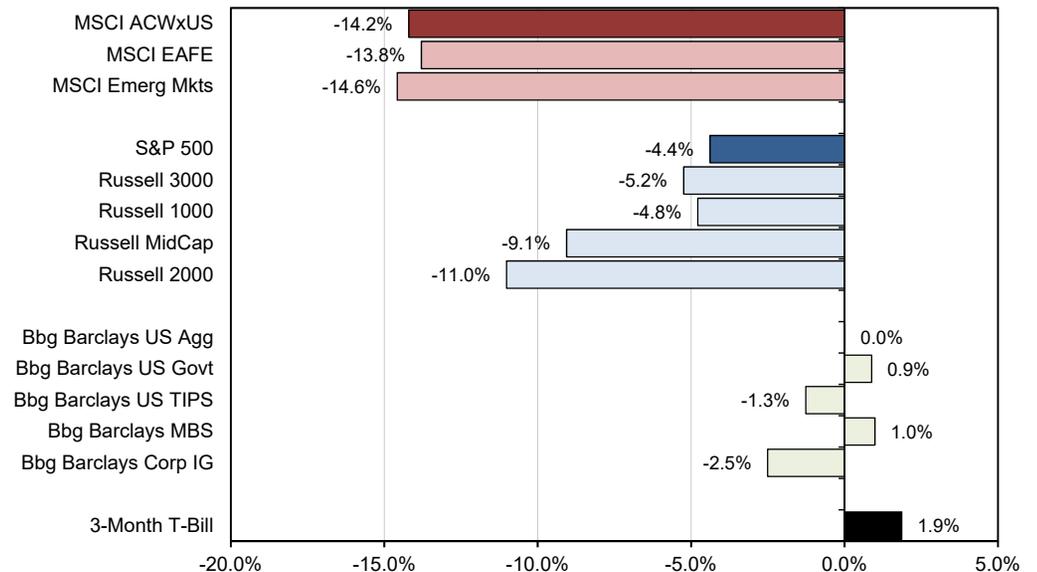
Mike Welker, CFA®
President/CEO

- Markets were volatile to end the 2018 calendar year. Both international and domestic equity markets had considerable losses during the 4th quarter while fixed income returns were muted, but outperformed relative to equities. Within equities, domestic stocks trailed international markets, reversing the 2018 trend of US market strength. Trade tensions between the US and China, midterm elections in US Congress, the effects of ongoing monetary policy tightening by the Federal Reserve (Fed), federal debt ceiling negotiations and the subsequent partial government shutdown outweighed generally positive corporate earnings and macroeconomic data reported during the quarter. The large cap S&P 500 Index returned -13.5% during the quarter while the small cap Russell 2000 Index fell by over 20% for the period. The drop in equity prices over the last three months was enough to take the returns for major US equity indices into negative territory for the 2018 calendar year. Returns over the 1-year period were -4.4% and -11.0% for the S&P 500 and Russell 2000 respectively.
- Similar to US equities, international equity index returns finished the quarter in negative territory with the MSCI ACWI ex US Index returning -11.5%. International markets faced headwinds from softening global macroeconomic data, tightening global monetary policy, uncertainty around Brexit negotiations, turmoil surrounding global trade relations, falling commodity prices and continued US Dollar (USD) strength. The developed market MSCI EAFE Index fell -12.5% during the 4th quarter, ending the year down -13.8%. Emerging markets performed well by comparison, only losing -7.5% during the quarter. Despite the 4th quarter outperformance, returns for emerging market equities trailed developed markets over the 1-year period with the MSCI Emerging Markets Index returning -14.6% versus a -13.8% return for the MSCI EAFE Index.
- Fixed income securities outperformed equities through both the 4th quarter and calendar year 2018 with the broad market Bloomberg Barclays Aggregate Index returning 1.6% and 0.0% respectively. Interest rates on the US Treasury Yield Curve continued their 2018 flattening trend as short-term rates increased to near-term highs while long-term rates fell during the quarter. Some of the increase in short-term rates can be attributed to the late December Fed interest rate hike. This marked the fourth Fed interest rate increase of 2018. This movement in rates did lead to some short-term rates being higher than those of longer dated maturities. More conservative fixed income sectors such as Treasuries and mortgage backed securities outperformed during the quarter and for the year as investors moved toward the relative safety these securities provide while widening credit spreads acted as a headwind to corporate issues.

Quarter Performance

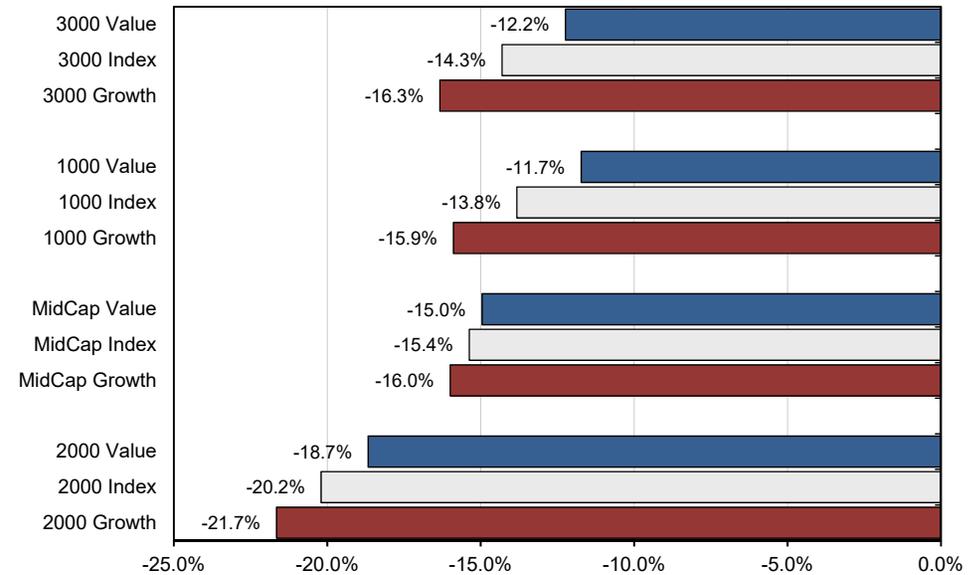


1-Year Performance

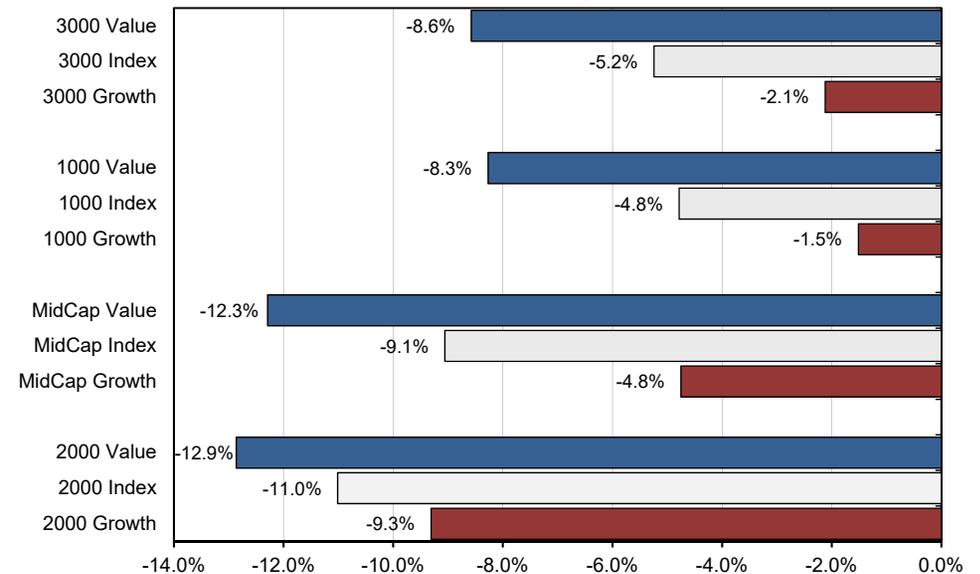


- US equity index returns were strongly negative across the style and capitalization spectrum during the 4th quarter of 2018. Despite these negative results, there was positive data in GDP, unemployment, wage growth, retail sales, and corporate earnings during the period. These positive economic factors were offset by softening data in housing, consumer confidence and manufacturing, tightening monetary policy, negative guidance for future corporate earnings and signs of slowing global growth which all contributed to the heavy selling in equities. Investors also considered the effects of ongoing trade negotiations, especially between the US and China, and the results of the US congressional midterm elections which likely reduced the chances of any major policy changes or new fiscal stimulus measures. The effects of partisan politics was particularly evident at the end of the quarter as budget negotiations between Democrats and Republicans collapsed over disagreement around the inclusion of funds for a border wall with Mexico, leading to a partial government shutdown to end the year.
- During the quarter, large cap stocks outperformed mid and small cap equities across growth, value and core indices. The large cap Russell 1000 Index fell -13.8% during the 4th quarter versus a -20.2% drop for the Russell 2000 Index. Part of the reason for weakness in small cap names is the steady increase in interest rates that occurred over 2018 as small cap companies typically maintain a higher percentage of debt than their large cap peers. Small cap names are also typically more volatile than larger companies and they have historically underperformed during market downturns. Similar to the most recent quarter, large cap stocks outperformed relative to small caps through calendar year 2018. The Russell 1000 returned -4.8% for the 1-year periods compared to a -11.0% return for the Russell 2000.
- Value indices outperformed growth indices across the market cap spectrum during the 4th quarter, reversing a year-to-date trend of growth stock outperformance. The large cap Russell 1000 Value Index was the best performing style index for the period, returning -11.7% for the quarter, while the Russell 2000 Growth Index was the worst performer, returning -21.7%. Value benchmarks tend to outperform in down markets as they benefit from their relative safety and higher dividend yields. Despite the short-term underperformance, growth benchmarks continue to outperform over the 1-year period, however, many of the sector exposures that drove growth stock outperformance during the first three quarters of the year, such as technology and consumer discretionary, were relative detractors during the 4th quarter.

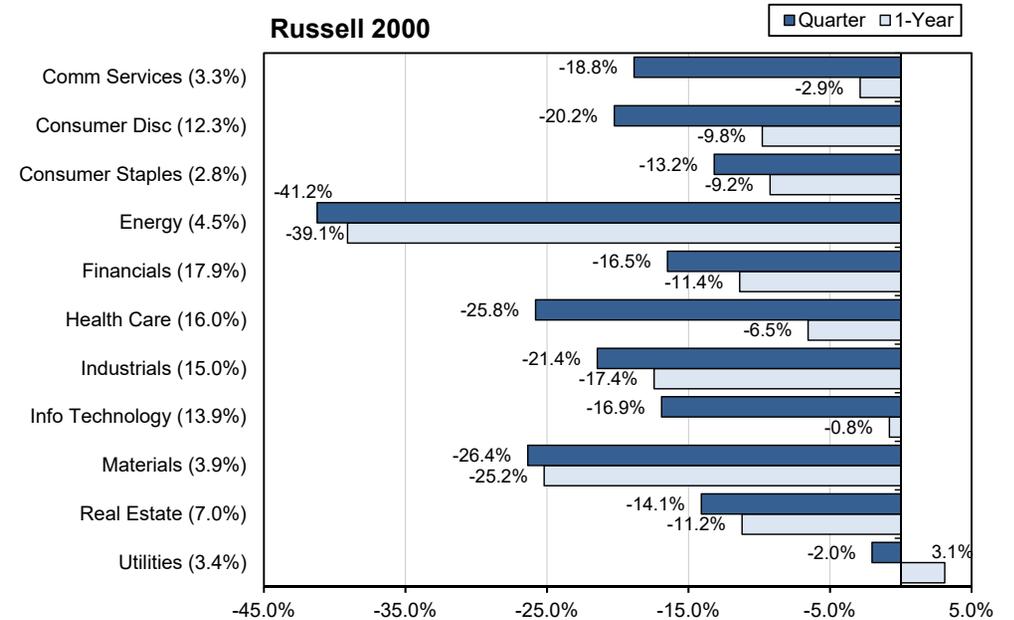
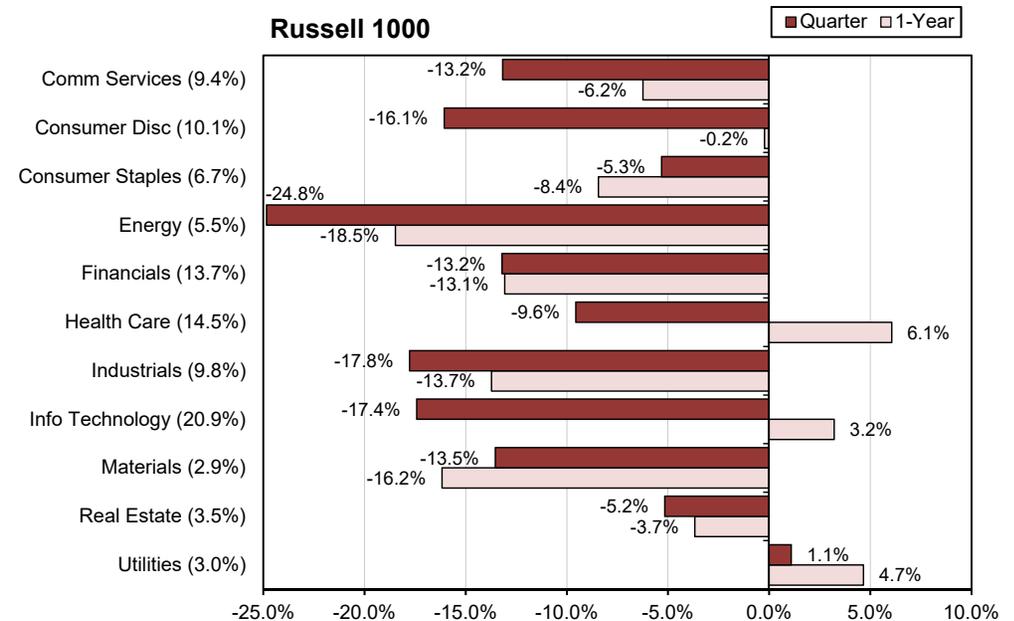
Quarter Performance - Russell Style Series



1-Year Performance - Russell Style Series



- Both S&P Dow Jones Indices and MSCI made changes to the Global Industry Classification Standard (GICS) sector configurations of their indices, creating a new GICS sector classification called Communication Services which replaced the Telecommunications sector on September 28, 2018. The Communication Services sector is comprised of companies in the Telecommunications sector, as well as certain companies formerly classified as Consumer Discretionary and Information Technology. As a result, the sector, went from a weighting of about 2% of the Russell 1000 Index to almost 10% post reclassification. Notable names now classified under Communication Services include Netflix, Alphabet, Facebook and Disney. This is just the second change to the GICS classifications since 1999.
- Sector performance was broadly negative across large cap sectors for the 4th quarter. All sectors within the Russell 1000 Index with the exception of the utilities sector posted negative returns for the period with seven sectors outpacing the return on the index. Cyclical sectors such as energy, industrials and technology were the worst performers through the quarter returning -24.8%, -17.8% and -17.4% respectively. Energy companies were hurt by a steep decline in oil prices during the quarter while technology and industrial companies fell on negative guidance for future earnings. More defensive, higher dividend paying sectors such as utilities, REITs and consumer staples were the strongest performing sectors with returns of 1.1%, -5.2% and -5.3% respectively. Only three sectors (health care, utilities, technology) posted positive results over the 1-year period with the remaining sectors losing ground during the calendar year.
- Quarterly results for small cap sectors were generally lower relative to their large capitalization counterparts. All eleven sectors had negative returns during the period with six of eleven economic sectors outpacing the Russell 2000 Index return for the quarter. Energy, materials and healthcare posted the worst returns for the period returning -41.2%, -26.4% and -25.8% respectively. Similar to large caps, defensive sectors performed well with utilities, consumer staples and real estate detracting the least returning -2.0%, -13.2% and -14.1% respectively. Over the trailing 1-year period, only utilities posted a gain returning 3.1%. Energy stocks were the worst performers in 2018, falling a considerable -41.2%.
- Using S&P 500 sector valuations as a proxy for the market, forward P/E ratios for three of the eleven GICS sectors were higher than their long-term averages at quarter-end. Using these historical P/E measures, the utilities, consumer discretionary and real estate sectors appear the most extended. In contrast the financials, technology and energy sectors were trading at a discount to their long-term average P/E ratios.



Source: Morningstar Direct

As a result of the GICS classification changes on 9/28/2018 and certain associated reporting limitations, sector performance represents backward looking performance for the prior year of each sector's current constituency, post creation of the Communication Services sector.



The Market Environment
Top 10 Index Weights & Quarterly Performance for the Russell 1000 & 2000
As of December 31, 2018

Top 10 Weighted Stocks				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Microsoft Corp	3.27%	-11.2%	20.3%	Information Technology
Apple Inc	3.24%	-29.9%	-5.4%	Information Technology
Amazon.com Inc	2.59%	-25.0%	28.4%	Consumer Discretionary
Berkshire Hathaway Inc B	1.68%	-4.6%	3.0%	Financials
Johnson & Johnson	1.47%	-6.0%	-5.1%	Health Care
JPMorgan Chase & Co	1.39%	-12.9%	-6.6%	Financials
Alphabet Inc Class C	1.34%	-13.2%	-1.0%	Communication Services
Alphabet Inc A	1.32%	-13.4%	-0.8%	Communication Services
Facebook Inc A	1.32%	-20.3%	-25.7%	Communication Services
Exxon Mobil Corp	1.23%	-19.0%	-15.1%	Energy

Top 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Tesaro Inc	0.01%	90.3%	-10.4%	Health Care
Red Hat Inc	0.13%	28.9%	46.2%	Information Technology
Virtu Financial Inc A	0.00%	27.1%	45.9%	Financials
Tesla Inc	0.19%	25.7%	6.9%	Consumer Discretionary
SCANA Corp	0.03%	23.2%	23.1%	Utilities
Tribune Media Co A	0.02%	18.9%	9.7%	Communication Services
MarketAxess Holdings Inc	0.03%	18.6%	5.6%	Financials
ARRIS International PLC	0.02%	17.6%	19.0%	Information Technology
United States Cellular Corp	0.00%	16.1%	38.1%	Communication Services
Newmont Mining Corp	0.08%	15.2%	-6.2%	Materials

Bottom 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Weatherford International PLC	0.00%	-79.4%	-86.6%	Energy
Nabors Industries Ltd	0.00%	-66.8%	-69.3%	Energy
Extraction Oil & Gas Inc	0.00%	-62.0%	-70.0%	Energy
Adient PLC	0.01%	-61.4%	-80.4%	Consumer Discretionary
Whiting Petroleum Corp	0.01%	-57.2%	-14.3%	Energy
Kosmos Energy Ltd	0.00%	-56.5%	-40.6%	Energy
Chesapeake Energy Corp	0.01%	-53.2%	-47.0%	Energy
Conduent Inc	0.01%	-52.8%	-34.2%	Information Technology
NVIDIA Corp	0.33%	-52.4%	-30.8%	Information Technology
SM Energy Co	0.01%	-50.8%	-29.6%	Energy

Top 10 Weighted Stocks				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Integrated Device Technology Inc	0.35%	3.0%	62.9%	Information Technology
Etsy Inc	0.32%	-7.4%	132.6%	Consumer Discretionary
Five Below Inc	0.31%	-21.3%	54.3%	Consumer Discretionary
Haemonetics Corp	0.29%	-12.7%	72.3%	Health Care
Ciena Corp	0.27%	8.5%	62.0%	Information Technology
Planet Fitness Inc A	0.26%	-0.8%	54.8%	Consumer Discretionary
Idacorp Inc	0.26%	-5.6%	4.6%	Utilities
HubSpot Inc	0.26%	-16.7%	42.2%	Information Technology
LivaNova PLC	0.25%	-26.2%	14.5%	Health Care
Cree Inc	0.24%	13.0%	15.2%	Information Technology

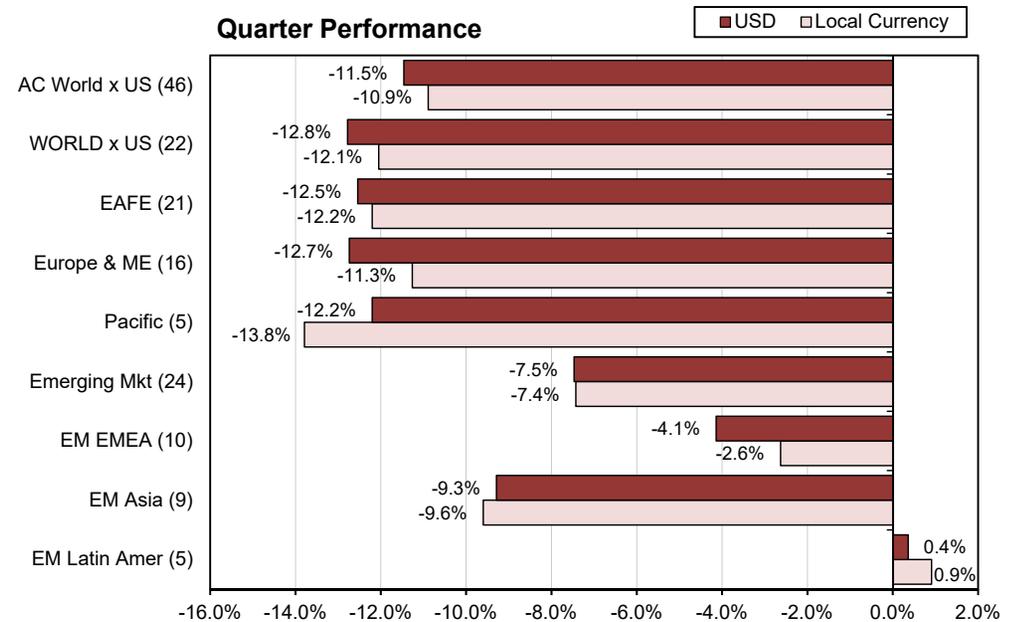
Top 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Electro Scientific Industries Inc	0.05%	71.7%	39.8%	Information Technology
Fluent Inc	0.01%	67.4%	3.4%	Communication Services
Mitek Systems Inc	0.02%	53.3%	20.8%	Information Technology
Arsanis Inc	0.00%	43.2%	-81.8%	Health Care
Inovalon Holdings Inc	0.05%	41.1%	-5.5%	Health Care
K12 Inc	0.05%	40.1%	55.9%	Consumer Discretionary
Investment Technology Group Inc	0.05%	39.9%	59.0%	Financials
Eidos Therapeutics Inc	0.01%	37.9%	N/A	Health Care
Belmond Ltd Class A	0.13%	37.2%	104.3%	Consumer Discretionary
Pacific Biosciences of California Inc	0.06%	36.8%	180.3%	Health Care

Bottom 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Synergy Pharmaceuticals Inc	0.00%	-93.3%	-94.9%	Health Care
Sanchez Energy Corp	0.00%	-88.3%	-94.9%	Energy
Sienna Biopharmaceuticals Inc	0.00%	-84.3%	-87.2%	Health Care
Cloud Peak Energy Inc	0.00%	-84.1%	-91.8%	Energy
Selecta Biosciences Inc	0.00%	-82.9%	-72.9%	Health Care
Clearside Biomedical Inc	0.00%	-82.6%	-84.7%	Health Care
Key Energy Services Inc	0.00%	-81.9%	-82.4%	Energy
AAC Holdings Inc	0.00%	-81.7%	-84.4%	Health Care
PHI Inc Non-Voting Shares	0.00%	-80.2%	-84.0%	Energy
Bristow Group Inc	0.00%	-80.0%	-82.0%	Energy

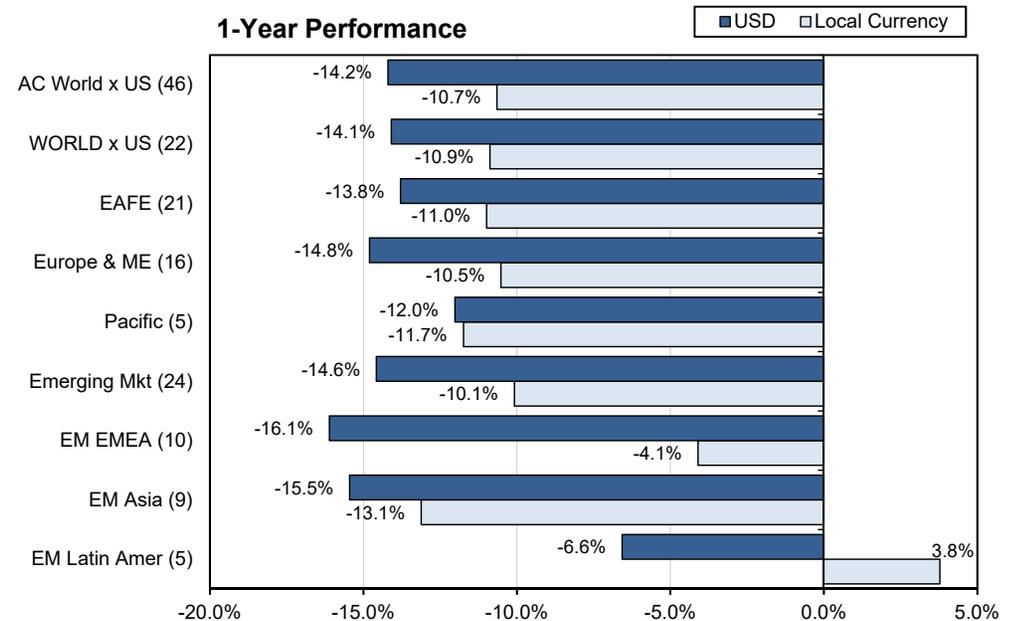


- Broad international equity returns were negative for the quarter in both local currency and USD terms. Geopolitical concerns, weakening economic data and the tightening of global monetary policy drove most of the negative performance. The USD also continued to strengthen against most currencies for the period which provided a headwind for USD based investors. The MSCI ACWI ex US Index fell -10.9% in local currency terms and -11.5% in USD terms during the 4th quarter. Returns for international indices were also broadly negative over the 1-year period in both local currency and USD terms with the MSCI ACWI ex US returning -10.7% and -14.2% respectively.
- Fourth quarter results for developed market international indices were negative in both local currency and USD terms with the MSCI EAFE Index returning -12.2% and -12.5% respectively. Returns were dampened for US investors as the USD continued to appreciate against most currencies, pushing returns lower. Global economic reporting during the quarter fueled concerns that global growth was beginning to slow. Japanese economic data faced headwinds from several natural disasters and data out of Europe was generally disappointing. Investors also weighed the effects of several significant political events in Europe including riots in France, ongoing budget negotiations between Italy and the EU and uncertainty around Brexit. Concerns over a “no deal” Brexit grew during the quarter as the draft withdrawal agreement presented by UK Prime Minister Theresa May was poorly received leading to a wave of cabinet resignations, a delay in the parliamentary vote and a “no confidence” vote which she ultimately won. The MSCI EAFE Index returned -11.0% and -13.8% for the last twelve months in local currency and USD terms respectively.
- Emerging markets outperformed relative to developed markets for the 4th quarter, but still declined in both local currency and USD terms with the MSCI Emerging Markets Index returning -7.4% and -7.5% respectively. Returns in emerging markets were hurt by the continued uncertainty surrounding trade relations between the US and China as both countries agreed to a 90-day hold on any new tariffs to allow for continued negotiations. Chinese economic data also appeared to be slowing during the quarter prompting the announcement of additional monetary and fiscal stimulus. The election of President Andres Manuel Lopez Obrador hurt returns in Mexico as investors feared the potential ramifications of his nationalist campaign promises. In contrast, Brazil was one of the few bright spots during the quarter as market participants looked favorably on the election of President Jair Bolsonaro in anticipation of market friendly economic reforms, including reforms associated with the country's bloated state pension system which has weighed heavily on the country's debt load. One year returns for the MSCI Emerging Market Index were -10.1% in local currency terms and -14.6% in USD terms.

Quarter Performance



1-Year Performance



The Market Environment
US Dollar International Index Attribution & Country Detail
As of December 31, 2018

MSCI - EAFE	Sector Weight	Quarter Return	1-Year Return
Communication Services	5.6%	-7.7%	-12.1%
Consumer Discretionary	11.2%	-14.2%	-16.1%
Consumer Staples	11.6%	-8.4%	-10.8%
Energy	5.9%	-17.5%	-7.2%
Financials	19.5%	-13.7%	-20.1%
Health Care	11.2%	-10.3%	-4.3%
Industrials	14.3%	-14.6%	-15.7%
Information Technology	6.0%	-16.7%	-15.6%
Materials	7.4%	-15.2%	-17.5%
Real Estate	3.7%	-5.4%	-9.9%
Utilities	3.8%	-0.1%	1.1%
Total	100.0%	-12.5%	-13.8%

MSCI - ACWIxUS	Sector Weight	Quarter Return	1-Year Return
Communication Services	7.6%	-5.5%	-11.9%
Consumer Discretionary	10.6%	-14.1%	-20.2%
Consumer Staples	9.9%	-7.4%	-11.2%
Energy	7.3%	-16.3%	-8.1%
Financials	22.2%	-10.7%	-16.8%
Health Care	8.4%	-11.2%	-6.2%
Industrials	11.7%	-13.7%	-15.1%
Information Technology	8.0%	-14.6%	-17.6%
Materials	7.7%	-13.4%	-15.9%
Real Estate	3.4%	-3.8%	-11.6%
Utilities	3.4%	0.5%	-0.9%
Total	100.0%	-11.5%	-14.2%

MSCI - Emerging Mkt	Sector Weight	Quarter Return	1-Year Return
Communication Services	14.1%	-3.7%	-14.9%
Consumer Discretionary	10.4%	-13.5%	-32.5%
Consumer Staples	6.7%	-4.6%	-13.7%
Energy	8.0%	-10.6%	4.7%
Financials	24.8%	-0.9%	-8.7%
Health Care	2.8%	-16.2%	-20.9%
Industrials	5.5%	-3.8%	-12.6%
Information Technology	14.2%	-12.7%	-19.3%
Materials	7.7%	-10.8%	-11.6%
Real Estate	3.0%	1.4%	-17.2%
Utilities	2.7%	3.6%	-3.8%
Total	100.0%	-7.5%	-14.6%

Country	MSCI-EAFE Weight	MSCI-ACWIxUS Weight	Quarter Return	1-Year Return
Japan	24.6%	16.6%	-14.2%	-12.9%
United Kingdom	16.9%	11.4%	-11.8%	-14.2%
France	11.1%	7.5%	-15.1%	-12.8%
Germany	8.8%	6.0%	-15.5%	-22.2%
Switzerland	8.7%	5.8%	-8.9%	-9.1%
Australia	6.9%	4.7%	-10.0%	-12.0%
Hong Kong	3.9%	2.6%	-4.5%	-7.8%
Netherlands	3.4%	2.3%	-11.0%	-13.1%
Spain	3.1%	2.1%	-8.7%	-16.2%
Sweden	2.7%	1.8%	-14.2%	-13.7%
Italy	2.3%	1.5%	-11.8%	-17.8%
Denmark	1.8%	1.2%	-9.8%	-15.4%
Singapore	1.4%	0.9%	-6.7%	-9.4%
Finland	1.0%	0.7%	-14.7%	-3.4%
Belgium	1.0%	0.6%	-18.5%	-26.9%
Norway	0.7%	0.5%	-18.1%	-8.6%
Ireland	0.5%	0.4%	-17.7%	-25.3%
Israel	0.5%	0.4%	-14.4%	-5.5%
Austria	0.2%	0.2%	-20.7%	-27.4%
New Zealand	0.2%	0.2%	-6.6%	-4.0%
Portugal	0.2%	0.1%	-14.3%	-11.1%
Total EAFE Countries	100.0%	67.5%	-12.5%	-13.8%
Canada		6.5%	-15.3%	-17.2%
Total Developed Countries		74.0%	-12.8%	-14.1%
China		7.9%	-10.7%	-18.9%
Korea		3.6%	-13.1%	-20.9%
Taiwan		3.0%	-13.7%	-8.9%
India		2.4%	2.5%	-7.3%
Brazil		2.0%	13.4%	-0.5%
South Africa		1.6%	-3.8%	-24.8%
Russia		1.0%	-9.0%	-0.7%
Mexico		0.7%	-18.8%	-15.5%
Malaysia		0.6%	-5.8%	-6.0%
Thailand		0.6%	-10.2%	-5.5%
Indonesia		0.6%	9.7%	-9.2%
Poland		0.3%	-3.0%	-12.9%
Philippines		0.3%	5.3%	-16.5%
Qatar		0.3%	8.4%	29.8%
Chile		0.3%	-8.7%	-19.7%
United Arab Emirates		0.2%	-5.5%	-7.7%
Turkey		0.2%	4.8%	-41.4%
Colombia		0.1%	-19.0%	-11.5%
Peru		0.1%	-2.9%	1.6%
Hungary		0.1%	5.9%	-6.1%
Greece		0.1%	-16.0%	-36.8%
Czech Republic		0.0%	-8.7%	-4.5%
Egypt		0.0%	-9.4%	-14.0%
Pakistan		0.0%	-22.4%	-34.8%
Total Emerging Countries		26.0%	-7.5%	-14.6%
Total ACWIxUS Countries		100.0%	-11.5%	-14.2%

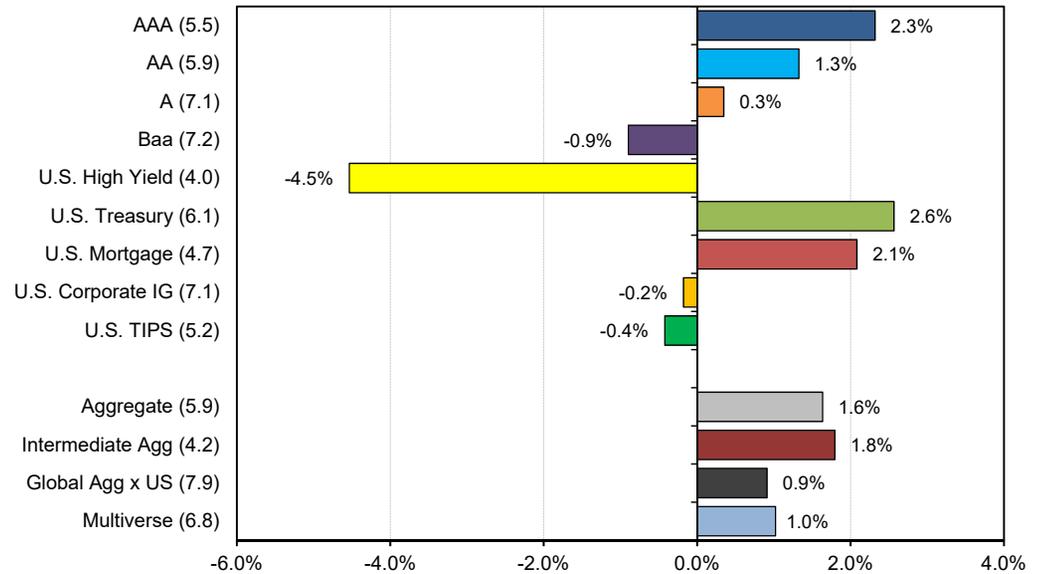
Source: Morningstar Direct, MSCI Global Index Monitor (Returns are Net in USD)

As a result of the GICS classification changes on 9/28/2018 and certain associated reporting limitations, sector performance represents backward looking performance for the prior year of each sector's current constituency, post creation of the Communication Services sector.

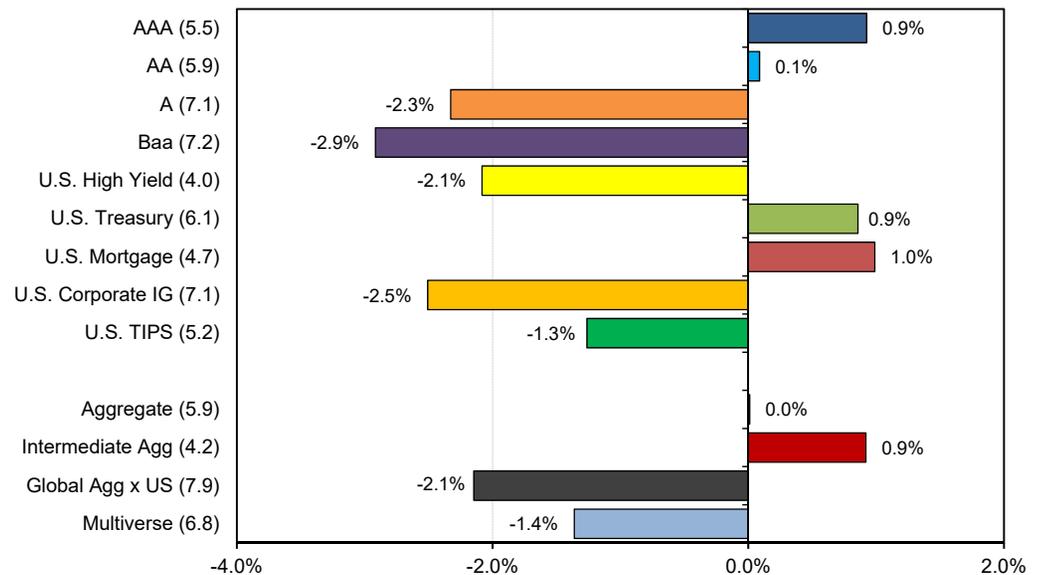


- Broad fixed income benchmarks had mixed results during the 4th quarter. Interest rates rose across short-term maturities, but fell on those on the middle and long end of the US Treasury Yield Curve. The Federal Open Market Committee (FOMC), decided to increase short-term interest rates by 25 basis points at their December meeting citing the strength of the US economy which caused an increase in short-term interest rates, but equity market volatility led market participants toward less volatile assets, pushing rates lower on maturities greater than 1-year. This was the fourth rate hike of 2018. The current Fed Funds Rate target range sits at 2.25%-2.50%. This caused continued flattening in the yield curve with some moderate inversion, which happens when short-term maturities have greater yields than long-term securities, in the middle of curve. The difference in yields between the 2-year and 10-year Treasury now sits at just 0.21%. Historically, an inverted yield curve has signaled a greater probability of a recession. The Fed is also continuing the reduction of the size of its balance sheet by slowing its pace of reinvestment as the securities it holds mature. However, the Fed did lower its guidance for future rate increases in 2019 following a reduction in expectations for GDP and inflation. The Fed is now projecting just two additional interest rate increases in 2019. The Bloomberg Barclays US Aggregate Index was positive during the quarter, posting a 1.6% return, but was flat, returning 0.0% over the 1-year period.
- Within investment grade credit, higher quality issues outperformed lower quality issues as investors preferred more conservative securities. On an absolute basis, without negating the duration differences in the sub-indices, AAA rated credit was the best performing investment grade credit quality segment returning 2.3% for the quarter, while Baa was the worst performing, falling -0.9%. High yield debt trailed investment grade credit as spreads widened the most for these issues, returning -4.5%. Returns are mixed for the investment grade quality segments when viewed over the 1-year period with higher quality issues outperforming lower quality securities. High yield performed well relative to lower quality investment grade debt due to the relatively strong returns experienced during the first three quarters of 2018.
- During the 4th quarter, the more defensive Treasury and mortgage backed sectors of the Bloomberg Barclays US Aggregate Index's three broad sectors were the best performers returning 2.6% and 2.1% respectively. Investment grade corporate credit underperformed, returning -0.2%, as credit spreads widened considerably during the period. This trend carried through to the 1-year period as both Treasuries and mortgage backed securities outperformed both investment grade and high yield corporate debt. Calendar year 2018 performance for the Treasury, mortgage backed and investment grade corporate issues was 0.9%, 1.0% and -2.5% respectively. US TIPS returned -0.4% and -1.3% for the 4th quarter and 1-year period.

Quarter Performance

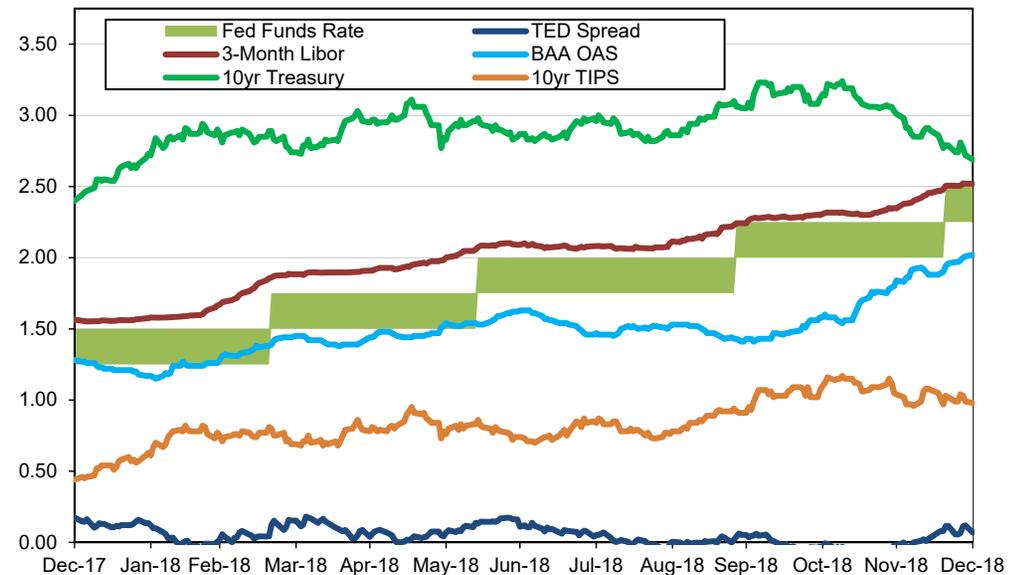


1-Year Performance

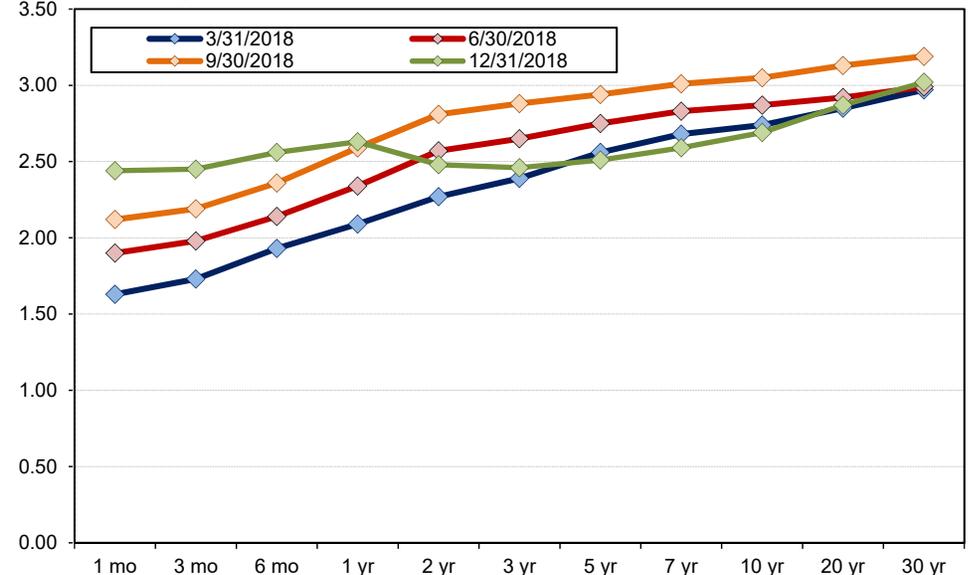


- Global fixed income indices continue to struggle relative to their domestic counterparts, underperforming during the 4th quarter. These indices have lower yields and the returns of these indices are also significantly influenced by fluctuations in their currency denomination relative to the USD. During the 4th quarter the USD strengthened against most other currencies, negatively impacting the returns on global bond indices. The return on global bonds, as represented by the Bloomberg Barclays Global Aggregate ex US Index, was 0.9% and -2.1% for the quarter and 1-year period respectively. As the global economy continues to recover, several international central banks have started to move toward less accommodative postures. Notably, the ECB, began to slow its monthly bond purchase program in September, reducing new purchases to 15 billion euro per month from 30 billion euro per month and ended the program entirely at year end. However, they have indicated a continuation of reinvestment in maturing securities and would likely not raise interest rates from current levels until summer 2019. The Bank of England and the Bank of Japan made no major policy changes during the quarter as they continue to review macroeconomic data within their respective countries.
- Much of the index performance detailed in the bar graphs on the previous page is visible on a time series basis by reviewing the line graphs to the right. The '1-Year Trailing Market Rates' chart illustrates that the 10-year Treasury yield (green line) fell during the 4th quarter after rising steadily through most of the year as investors moved to safe haven assets during the period, ending the year at 2.69%. The blue line illustrates changes in the BAA OAS (Option Adjusted Spread). This measure quantifies the additional yield premium that investors require to purchase and hold non-Treasury issues. This line illustrates a relatively tight range in credit spreads throughout most of 2018, but highlights an abrupt increase during the 4th quarter as investors moved to higher quality assets. This increase is equivalent to an interest rate increase on corporate bonds, which produces an additional headwind for corporate bond index returns. These credit spreads have widened by about 59 basis points over the last 3-months. The green band across the graph illustrates the gradual increase in the Federal Funds Rate (four increases in the last twelve months) due to the continued tightening of US monetary policy.
- The lower graph provides a snapshot of the US Treasury yield curve at the end of each of the last four calendar quarters. As mentioned, the yield curve continues to flatten as yields on shorter-term maturities have risen more than interest rates on the long end of the curve. The upward momentum of interest rates as well as a general flattening of the yield curve are clearly visible over the last twelve months with some minor inversion visible in the middle of the yield curve.

1-Year Trailing Market Rates



Treasury Yield Curve



Evaluation Process

This section presents charts and graphs that highlight the investment character of each portfolio analyzed. The performance, portfolio characteristics, risk profile, and style traits of each portfolio are compared against those of its benchmark(s) and other funds with similar objectives. Eight criteria-specific rankings are developed, and then combined, to establish each portfolio's overall status.

The table below describes the evaluation standards used. Significant changes in portfolio characteristics compared to historical positioning, large performance deficits, and risk or style shortcomings are fundamental factors in concluding if remedial action is advisable. However, a violation of one of more of the standards does not automatically require remedial action.

Investment Policy Criteria	Weighting	Summary of Evaluation
Manager Performance		
Investment Returns vs. Peer Group	20%	A fund is evaluated relative to where its 1, 3 and 5-year returns fall within its peer group. The results for each period are combined to determine total ranking (satisfactory, modest breach, significant concern). A similar process is used to evaluate the fund's performance relative to its benchmark(s).
Historical Performance vs. Benchmark	20%	
Portfolio Characteristics		
Adherence to Standards	10%	These criteria compare portfolio characteristics such as market capitalization, number of holdings, cash, and concentration of holdings against objective standards and benchmarks. For example, a fund with a high allocation to cash or with a high/low average market capitalization relative to its benchmark will receive a lower grade. Additionally, funds having less than three years of performance history or having manager tenure of less than three years will receive a lower grade.
Inception & Manager Tenure	10%	
Risk Profile		
Sharpe Ratio & Standard Deviation Relative to Peer Group	10%	A fund is evaluated relative to where its 3- and 5-year Sharpe ratio and standard deviation fall within its peer group. The results for each period are combined to determine total ranking. A similar process is used to evaluate the fund's Sharpe ratio and standard deviation relative to its benchmark(s).
Sharpe Ratio & Standard Deviation Relative to Benchmark	10%	
Style Traits		
Adherence to Investment Objectives	10%	A fund's style is evaluated based upon how closely it adheres to its stated investment objective and how stable its style has been historically. Criteria used to evaluate a fund's style traits include returns-based style analysis, statistics such as r-squared, and portfolio characteristics such as price/earnings ratio. Funds with style traits that are inconsistent with their stated objective or historically unstable receive lower grades.
Historical Style Stability	10%	
Status		
Overall Status		The results for all criteria are combined to determine an overall ranking for the fund. Rankings include Satisfactory, Modest Breach ("Guarded" status) and Significant Concern ("Watch List" status).

Note: Grades are based on AndCo's Proprietary scale



Portfolio Evaluation Summary

This report provides opinions, analysis, and supporting statistical information concerning:

- the performance, volatility, and characteristics of each designated Plan fund
- the continuing suitability of each fund as a Plan investment option

Portfolio Performance and Suitability of Plan Funds

Our overall evaluation of the Plan's investment funds may be summarized as follows:

Summary Evaluation	Number of Funds
Pass (Satisfactory)	15
Guarded	3
Watch	0

See the Plan Funds Observations and Comments, below, for further explanation.

Plan Fund Observations and Comments

The majority of Plan funds have substantially achieved their category-specific standards for performance, controlled volatility, and portfolio characteristics. The charts in the following pages reveal some modest breaches compared to established

evaluation standards; however, we do not find divergences from the funds' stated objectives or styles that are worrisome except as discussed below.

Fund Commentary

Hotchkis & Wiley Mid Cap Value remains on **GUARDED** status due to continued lagging returns relative to its benchmark and peers. The fund has underperformed the benchmark index over the three and five years periods, while outperforming during the last ten years annualized. The year to date performance was negatively impacted during the fourth quarter. Relative peer group and benchmark returns are still strong during the last ten years annualized periods. The value style has certainly provided most of the drag on returns. We will continue to monitor.

The Lazard Emerging Markets Fund remains on **GUARDED** status due to an poor year to date performance, which has negatively impacted the funds improving results. Emerging markets funds experienced severe downside volatility during the last four quarters. The value style of Lazard was also a cause for the funds severe underperformance during the quarter. We continue to believe that Lazard is still a strong long-term EM strategy. We will continue to monitor.

AMG Managers Special Equities remains on **GUARDED** status due to significant underperformance relative to its benchmark and peers in the last four quarters. The fund has underperformed the benchmark index over the three and five years periods, while outperforming during the last seven and ten years annualized. Relative peer group rankings are mixed in the near term, but are favorable when looking at consistency during the last seven and ten years annual periods. The value style has certainly provided most of the drag on returns. We will continue to monitor.



Portfolio Evaluation Summary

- 1 Trailing 1, 3 and 5-year portfolio returns versus peer group
- 2 Historic performance relative to benchmark
- 3 Portfolio characteristics compared to established standards
- 4 At least 3 years of investment performance/At least 3 years with current fund manager
- 5 Sharpe ratio and standard deviation of fund relative to peer group
- 6 Sharpe ratio and standard deviation of fund relative to benchmark
- 7 Style consistent with fund objective
- 8 Style historically stable
- 9 Summary Evaluation

Pass (Satisfactory)

Guarded

Watch

Investment Funds	1	2	3	4	5	6	7	8	9
Lazard Emerging Markets Equity (LZOEX)	Guarded	Guarded	Pass	Pass	Pass	Guarded	Pass	Pass	Guarded
DFA International Small Cap Value (DISVX)	Pass	Guarded	Pass	Pass	Guarded	Pass	Pass	Pass	Pass
American Funds EuroPacific Growth (RERGX)	Pass	Pass	Pass	Pass	Guarded	Pass	Pass	Pass	Pass
Wells Fargo Small Co Growth R6 (WSCRX)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Vanguard Small Cap Index Adm (VSMAX)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
AMG Managers Skyline Special Equities (SKSEX)	Guarded	Guarded	Pass	Pass	Pass	Guarded	Pass	Pass	Guarded
Hartford Mid Cap (HIMCX)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Vanguard Mid Cap Index Adm (VIMAX)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Hotchkis & Wiley Mid Cap Value (HWMIX)	Guarded	Guarded	Pass	Pass	Pass	Guarded	Pass	Pass	Guarded
American Funds Growth Fund of America (RGAGX)	Pass	Guarded	Pass	Pass	Guarded	Pass	Pass	Pass	Pass
Wells Fargo Disciplined US Core (EVSIX)	Pass	Guarded	Pass	Pass	Guarded	Pass	Pass	Pass	Pass
Vanguard Institutional Index (VINIX)	Pass	Pass	Pass	Guarded	Pass	Pass	Pass	Pass	Pass
American Century Equity Income (AEUDX)	Pass	Pass	Pass	Pass	Guarded	Pass	Pass	Pass	Pass
American Funds American Balanced (RLBGX)	Pass	Pass	Pass	Pass	Guarded	Guarded	Pass	Pass	Pass
PIMCO High Yield (PHIYX)	Pass	Pass	Pass	Pass	Guarded	Pass	Pass	Pass	Pass
PIMCO Foreign Bond USD-Hedged (PFORX)	Pass	Pass	Pass	Pass	Guarded	Pass	Pass	Pass	Pass
Hartford Total Return Bond (HIABX)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
MassMutual Guaranteed Interest Account	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass



Historical Summary Evaluation

Pass (Satisfactory)

Guarded

Watch

Investment Funds	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16
Lazard Emerging Markets Equity (LZOEX)	Guarded	Guarded	Pass	Guarded	Guarded	Guarded	Pass	Pass	Pass
DFA International Small Cap Value (DISVX)	Pass	Pass							
American Funds EuroPacific Growth (RERGX)	Pass	Pass							
Wells Fargo Small Co Growth R6 (WSCRX)	Pass	Pass	Pass	Pass	Pass				
Vanguard Small Cap Index Adm (VSMAX)	Pass	Pass							
AMG Managers Skyline Special Equities (SKSEX)	Guarded	Guarded	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Hartford Mid Cap (HIMCX)	Pass	Pass							
Vanguard Mid Cap Index Adm (VIMAX)	Pass	Pass							
Hotchkis & Wiley Mid Cap Value (HWMIX)	Guarded	Watch							
American Funds Growth Fund of America (RGAGX)	Pass	Pass							
Wells Fargo Disciplined US Core (EVSIX)	Pass								
Vanguard Institutional Index (VINIX)	Pass	Pass							
American Century Equity Income (AEUDX)	Pass	Pass							
American Funds American Balanced (RLBGX)	Pass	Pass							
PIMCO High Yield (PHIYX)	Pass	Pass							
PIMCO Foreign Bond USD-Hedged (PFORX)	Pass	Pass							
Hartford Total Return Bond (HIABX)	Pass	Pass							
MassMutual Guaranteed Interest Account	Pass	Pass							



Asset Allocation Attributes	Dec-2018		Sep-2018		Jun-2018	
	(\$)	%	(\$)	%	(\$)	%
Total 457 Fund	155,626,513	100.00	168,165,817	100.00	163,438,442	100.00
International Equity						
Lazard Emerging Markets Equity (LZOEX)	1,172,330	0.75	1,257,641	0.75	1,236,329	0.76
DFA International Small Cap Value (DISVX)	1,255,726	0.81	1,502,311	0.89	1,528,399	0.94
American Funds EuroPacific Growth (RERGX)	4,108,472	2.64	4,670,446	2.78	4,760,334	2.91
Domestic Equity						
Wells Fargo Small Co Growth (WSCRX)	2,551,478	1.64	3,208,533	1.91	3,010,395	1.84
Vanguard Small Cap Index (VSMAX)	2,408,630	1.55	2,916,459	1.73	2,725,317	1.67
AMG Managers Skyline Special Equities (SKSEX)	2,041,078	1.31	2,689,557	1.60	2,815,385	1.72
Hartford Mid Cap (HIMCX)	7,890,061	5.07	9,686,310	5.76	9,272,485	5.67
Vanguard Mid Cap Index (VIMAX)	2,484,906	1.60	2,947,832	1.75	2,750,781	1.68
Hotchkis & Wiley Mid Cap Value (HWMIX)	2,325,742	1.49	3,247,238	1.93	3,234,063	1.98
AF Growth Fund of America (RGAGX)	12,922,280	8.30	15,496,479	9.21	14,770,965	9.04
Wells Fargo Disciplined US Core (EVSIX)	10,881,687	6.99	12,936,065	7.69	12,333,868	7.55
Vanguard Institutional Index (VINIX)	10,702,954	6.88	12,586,588	7.48	11,592,073	7.09
American Century Equity Income (AEUDX)	6,214,511	3.99	6,909,990	4.11	6,692,783	4.09
Balanced Fund						
American Funds American Balanced (RLBGX)	5,472,323	3.52	5,997,891	3.57	5,763,007	3.53
Fixed Income						
PIMCO High Yield (PHIYX)	1,926,869	1.24	2,117,851	1.26	2,103,283	1.29
PIMCO Foreign Bond USD-Hedged (PFORX)	949,338	0.61	926,980	0.55	931,097	0.57
Hartford Total Return Bond (HIABX)	3,269,210	2.10	3,329,622	1.98	3,391,915	2.08
Cash						
MassMutual Guaranteed Interest Account	74,349,570	47.77	73,051,392	43.44	71,911,388	44.00
Loan Account	2,699,348	1.73	2,686,632	1.60	2,614,576	1.60



Asset Allocation
457 Retirement Models
As of December 31, 2018

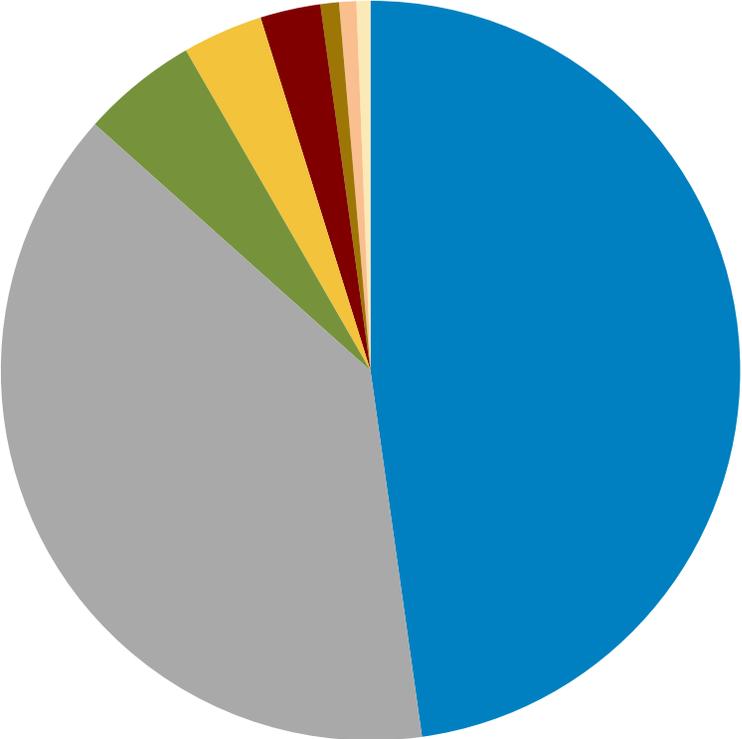
Asset Allocation Attributes	Dec-2018		Sep-2018		Jun-2018	
	(\$)	%	(\$)	%	(\$)	%
WCAB 2060 Retirement	1,378	0.02	734	0.01	-	0.00
WCAB 2055 Retirement	16,788	0.19	15,459	0.16	9,851	0.11
WCAB 2050 Retirement	834,999	9.60	1,059,838	11.03	978,760	10.97
WCAB 2045 Retirement	201,441	2.32	208,629	2.17	128,197	1.44
WCAB 2040 Retirement	1,957,770	22.50	2,259,765	23.51	2,115,904	23.71
WCAB 2035 Retirement	388,876	4.47	320,512	3.34	301,182	3.37
WCAB 2030 Retirement	2,680,467	30.81	2,983,402	31.04	2,869,481	32.15
WCAB 2025 Retirement	1,148,501	13.20	1,185,110	12.33	962,429	10.78
WCAB 2020 Retirement	1,410,296	16.21	1,506,985	15.68	1,483,445	16.62
WCAB 2015 Retirement	-	0.00	-	0.00	-	0.00
WCAB Income Retirement	59,660	0.69	69,534	0.72	74,909	0.84
Model Portfolios Total	8,700,176	100.00	9,609,968	100.00	8,924,157	100.00



December 31, 2018 : \$155,626,513

Allocation

	Market Value	Allocation
Cash	74,349,570	47.8
US Equity	60,423,327	38.8
US Fixed Income	7,895,427	5.1
US Balanced	5,472,323	3.5
International Equity	4,108,472	2.6
International-Developed Equity	1,255,726	0.8
International-Emerging Equity	1,172,330	0.8
International Fixed Income	949,338	0.6

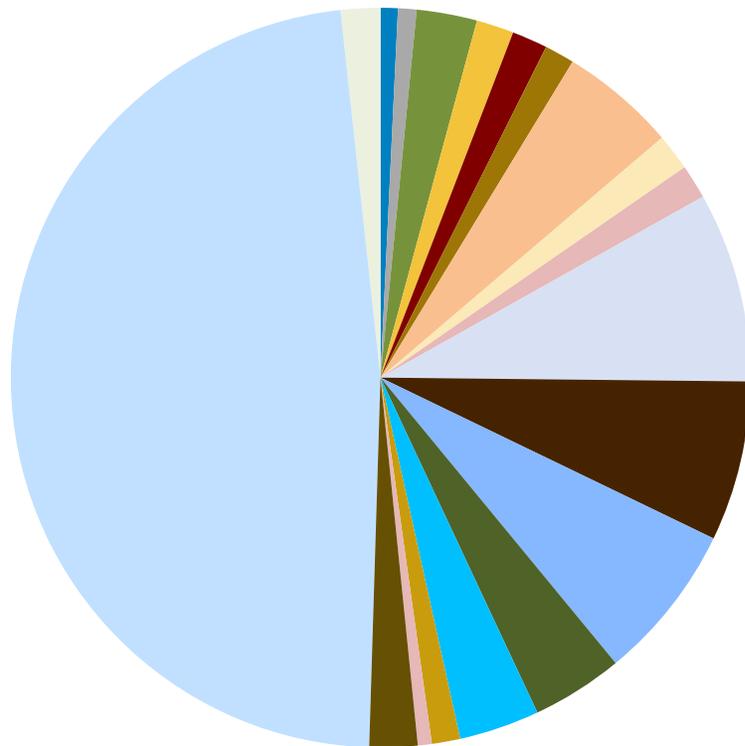


Asset Allocation By Manager

457 Total Plan

As of December 31, 2018

December 31, 2018 : \$155,626,513



Allocation

	Market Value	Allocation
Lazard Emerging Markets Equity (LZOEX)	1,172,330	0.8
DFA International Small Cap Value (DISVX)	1,255,726	0.8
American Funds EuroPacific Growth (RERGX)	4,108,472	2.6
Wells Fargo Small Co Growth (WSCRX)	2,551,478	1.6
Vanguard Small Cap Index (VSMAX)	2,408,630	1.5
AMG Managers Skyline Special Equities (SKSEX)	2,041,078	1.3
Hartford Mid Cap (HIMCX)	7,890,061	5.1
Vanguard Mid Cap Index (VIMAX)	2,484,906	1.6
Hotchkis & Wiley Mid Cap Value (HWMIX)	2,325,742	1.5
AF Growth Fund of America (RGAGX)	12,922,280	8.3
Wells Fargo Disciplined US Core (EVSIX)	10,881,687	7.0
Vanguard Institutional Index (VINIX)	10,702,954	6.9
American Century Equity Income (AEUDX)	6,214,511	4.0
American Funds American Balanced (RLBGX)	5,472,323	3.5
PIMCO High Yield (PHIYX)	1,926,869	1.2
PIMCO Foreign Bond USD-Hedged (PFORX)	949,338	0.6
Hartford Total Return Bond (HIABX)	3,269,210	2.1
MassMutual Guaranteed Interest Account	74,349,570	47.8
Loan Account	2,699,348	1.7



Asset Allocation Attributes	Dec-2018		Sep-2018		Jun-2018	
	(\$)	%	(\$)	%	(\$)	%
Total 401(a) Fund	11,284,725	100.00	12,244,204	100.00	11,806,197	100.00
International Equity						
Lazard Emerging Markets Equity (LZOEX)	139,058	1.23	147,098	1.20	144,959	1.23
DFA International Small Cap Value (DISVX)	139,951	1.24	165,538	1.35	164,836	1.40
American Funds EuroPacific Growth (RERGX)	360,260	3.19	407,480	3.33	411,568	3.49
Domestic Equity						
Wells Fargo Small Co Growth (WSCRX)	257,843	2.28	323,815	2.64	303,725	2.57
Vanguard Small Cap Index (VSMAX)	240,442	2.13	304,418	2.49	286,159	2.42
AMG Managers Skyline Special Equities (SKSEX)	227,646	2.02	296,589	2.42	297,690	2.52
Hartford Mid Cap (HIMCX)	695,036	6.16	841,765	6.87	803,915	6.81
Vanguard Mid Cap Index (VIMAX)	219,795	1.95	272,261	2.22	255,763	2.17
Hotchkis & Wiley Mid Cap Value (HWMIX)	226,283	2.01	301,859	2.47	288,965	2.45
American Funds Growth Fund of America (RGAGX)	725,306	6.43	847,470	6.92	784,609	6.65
Wells Fargo Disciplined US Core (EVSIX)	800,488	7.09	923,053	7.54	864,204	7.32
Vanguard Institutional Index (VINIX)	1,024,994	9.08	1,193,311	9.75	1,101,825	9.33
American Century Equity Income (AEUDX)	605,152	5.36	649,115	5.30	618,080	5.24
Balanced Fund						
American Funds American Balanced (RLBGX)	515,484	4.57	542,494	4.43	510,350	4.32
Fixed Income						
PIMCO High Yield (PHIYX)	132,714	1.18	140,303	1.15	150,441	1.27
PIMCO Foreign Bond USD-Hedged (PFORX)	92,876	0.82	97,033	0.79	104,872	0.89
Hartford Total Return Bond (HIABX)	341,387	3.03	340,444	2.78	395,694	3.35
Cash						
MassMutual Guaranteed Interest Account	4,325,160	38.33	4,224,815	34.50	4,114,185	34.85
Loan Account	214,851	1.90	225,343	1.84	204,356	1.73



Asset Allocation
401(a) Retirement Models
As of December 31, 2018

Asset Allocation Attributes	Dec-2018		Sep-2018		Jun-2018	
	(\$)	%	(\$)	%	(\$)	%
WCAB 2060 Retirement	-	0.00	-	0.00	-	0.00
WCAB 2055 Retirement	-	0.00	-	0.00	-	0.00
WCAB 2050 Retirement	53,253	5.04	58,079	4.93	53,457	4.64
WCAB 2045 Retirement	-	0.00	-	0.00	-	0.00
WCAB 2040 Retirement	151,467	14.32	167,950	14.25	158,066	13.73
WCAB 2035 Retirement	53,738	5.08	60,005	5.09	57,687	5.01
WCAB 2030 Retirement	120,939	11.44	183,979	15.61	196,180	17.04
WCAB 2025 Retirement	433,368	40.98	473,488	40.17	454,923	39.52
WCAB 2020 Retirement	-	0.00	-	0.00	-	0.00
WCAB 2015 Retirement	21,746	2.06	-	0.00	-	0.00
WCAB Income Retirement	222,982	21.09	235,161	19.95	230,817	20.05
Total Model Portfolios	1,057,494	100.00	1,178,662	100.00	1,151,130	100.00

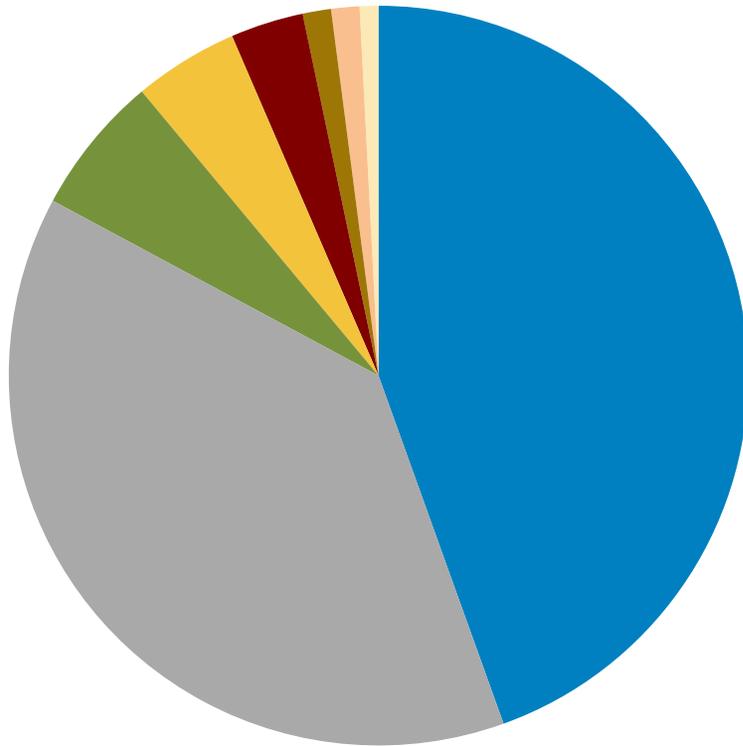


Asset Allocation By Asset Class
401(a) Total Plan
As of December 31, 2018

December 31, 2018 : \$11,284,725

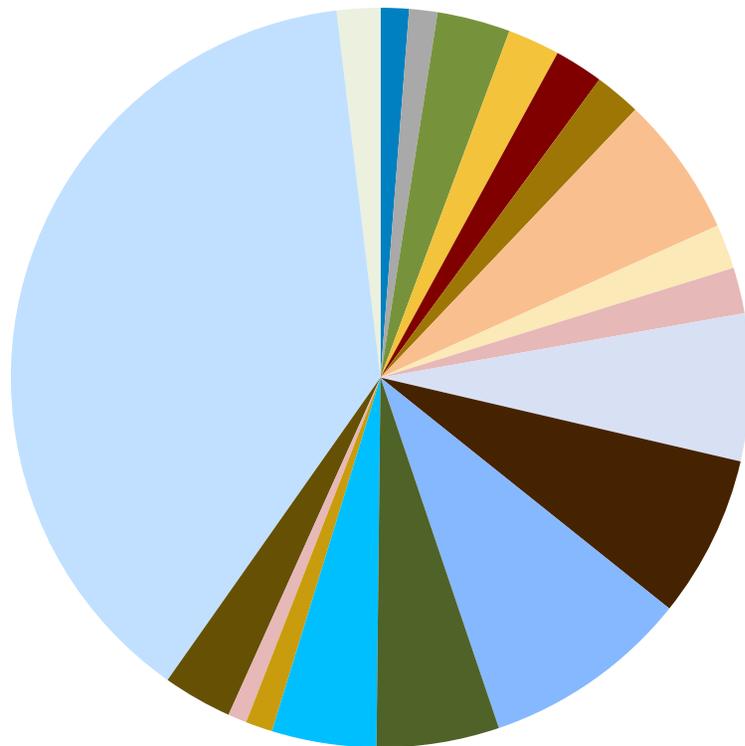
Allocation

	Market Value	Allocation
■ US Equity	5,022,984	44.5
■ Cash	4,325,160	38.3
■ US Fixed Income	688,952	6.1
■ US Balanced	515,484	4.6
■ International Equity	360,260	3.2
■ International-Developed Equity	139,951	1.2
■ International-Emerging Equity	139,058	1.2
■ International Fixed Income	92,876	0.8



Asset Allocation By Manager
401(a) Total Plan
As of December 31, 2018

December 31, 2018 : \$11,284,725



Allocation

	Market Value	Allocation
Lazard Emerging Markets Equity (LZOEX)	139,058	1.2
DFA International Small Cap Value (DISVX)	139,951	1.2
American Funds EuroPacific Growth (RERGX)	360,260	3.2
Wells Fargo Small Co Growth (WSCRX)	257,843	2.3
Vanguard Small Cap Index (VSMAX)	240,442	2.1
AMG Managers Skyline Special Equities (SKSEX)	227,646	2.0
Hartford Mid Cap (HIMCX)	695,036	6.2
Vanguard Mid Cap Index (VIMAX)	219,795	1.9
Hotchkis & Wiley Mid Cap Value (HWMIX)	226,283	2.0
American Funds Growth Fund of America (RGAGX)	725,306	6.4
Wells Fargo Disciplined US Core (EVSIX)	800,488	7.1
Vanguard Institutional Index (VINIX)	1,024,994	9.1
American Century Equity Income (AEUDX)	605,152	5.4
American Funds American Balanced (RLBGX)	515,484	4.6
PIMCO High Yield (PHIYX)	132,714	1.2
PIMCO Foreign Bond USD-Hedged (PFORX)	92,876	0.8
Hartford Total Return Bond (HIABX)	341,387	3.0
MassMutual Guaranteed Interest Account	4,325,160	38.3
Loan Account	214,851	1.9



Comparative Performance
401(a) Trailing Returns
As of December 31, 2018

Comparative Performance	QTR		YTD		1 YR		3 YR		5 YR		7 YR		10 YR	
International Equity														
Lazard Emerging Markets Equity (LZOEX)	-5.58	(23)	-18.32	(68)	-18.32	(68)	7.83	(36)	-0.92	(81)	2.04	(70)	6.94	(67)
MSCI Emerging Markets (Net) Index	-7.47	(48)	-14.58	(30)	-14.58	(30)	9.25	(17)	1.65	(27)	3.23	(45)	8.02	(36)
IM Emerging Markets Equity (MF) Median	-7.62		-16.41		-16.41		6.87		0.87		2.96		7.43	
DFA International Small Cap Value (DISVX)	-17.91	(71)	-23.31	(80)	-23.31	(80)	1.96	(59)	0.93	(57)	7.83	(39)	8.71	(78)
MSCI AC World ex USA Small Cap (Net)	-14.43	(28)	-18.20	(38)	-18.20	(38)	3.82	(31)	1.96	(40)	6.59	(67)	10.02	(50)
IM International SMID Cap Equity (MF) Median	-16.49		-19.40		-19.40		2.68		1.22		7.48		10.02	
American Funds EuroPacific Growth (RERGX)	-12.59	(28)	-14.91	(51)	-14.91	(51)	4.08	(5)	1.86	(1)	6.77	(2)	N/A	
MSCI EAFE (Net) Index	-12.54	(27)	-13.79	(29)	-13.79	(29)	2.87	(23)	0.53	(8)	5.75	(14)	6.32	(33)
IM International Large Cap Core Equity (MF) Median	-13.68		-14.90		-14.90		1.60		-0.49		5.11		5.54	
Domestic Equity														
Wells Fargo Small Co Growth (WSCRX)	-20.90	(53)	-3.57	(18)	-3.57	(18)	7.84	(54)	N/A		N/A		N/A	
Russell 2000 Growth Index	-21.65	(57)	-9.31	(68)	-9.31	(68)	7.24	(57)	5.13	(42)	11.25	(44)	13.52	(52)
IM U.S. Small Cap Growth Equity (MF) Median	-20.68		-7.07		-7.07		8.11		4.14		10.35		13.90	
Vanguard Small Cap Index (VSMAX)	-18.33	(18)	-9.31	(27)	-9.31	(27)	7.64	(45)	5.25	(28)	11.22	(30)	13.57	(22)
Vanguard Spliced Small Cap Index	-18.33	(18)	-9.33	(27)	-9.33	(27)	7.62	(45)	5.24	(29)	11.20	(31)	13.53	(23)
IM U.S. Small Cap Core Equity (MF) Median	-20.15		-11.94		-11.94		6.93		3.74		10.51		12.43	
AMG Managers Skyline Special Equities (SKSEX)	-20.57	(68)	-19.00	(75)	-19.00	(75)	2.12	(89)	0.81	(68)	9.46	(25)	13.52	(10)
Russell 2000 Value Index	-18.67	(35)	-12.86	(31)	-12.86	(31)	7.37	(30)	3.61	(15)	9.57	(19)	10.40	(50)
IM U.S. Small Cap Value Equity (MF) Median	-20.15		-15.68		-15.68		5.53		1.79		8.42		10.32	
Hartford Mid Cap (HIMCX)	-17.69	(56)	-7.44	(75)	-7.44	(75)	8.86	(37)	7.86	(19)	13.57	(10)	13.76	(37)
Russell Midcap Growth Index	-15.99	(27)	-4.75	(44)	-4.75	(44)	8.59	(41)	7.42	(26)	12.27	(33)	15.12	(15)
IM U.S. Mid Cap Growth Equity (MF) Median	-17.34		-5.19		-5.19		7.72		5.92		11.16		13.10	
Vanguard Mid Cap Index (VIMAX)	-15.46	(43)	-9.23	(21)	-9.23	(21)	6.38	(32)	6.21	(14)	11.32	(11)	13.87	(7)
Vanguard Spliced Mid Cap Index	-15.46	(43)	-9.22	(21)	-9.22	(21)	6.40	(30)	6.24	(11)	11.36	(10)	13.91	(6)
IM U.S. Mid Cap Core Equity (MF) Median	-16.00		-11.66		-11.66		4.77		3.72		9.31		11.54	
Hotchkis & Wiley Mid Cap Value (HWMIX)	-25.79	(98)	-19.29	(82)	-19.29	(82)	1.72	(90)	0.65	(96)	9.85	(38)	14.01	(3)
Russell Midcap Value Index	-14.95	(28)	-12.29	(28)	-12.29	(28)	6.06	(20)	5.44	(7)	10.89	(9)	13.03	(21)
IM U.S. Mid Cap Value Equity (MF) Median	-16.88		-13.80		-13.80		4.16		3.49		9.50		12.28	
American Funds Growth Fund of America (RGAGX)	-15.06	(38)	-2.60	(70)	-2.60	(70)	10.27	(33)	9.22	(47)	14.14	(23)	N/A	
Russell 1000 Growth Index	-15.89	(53)	-1.51	(59)	-1.51	(59)	11.15	(17)	10.40	(15)	14.14	(23)	15.29	(19)
IM U.S. Large Cap Growth Equity (MF) Median	-15.78		-0.85		-0.85		9.62		9.11		13.24		14.08	

Returns for periods greater than one year are annualized.
Returns are expressed as percentages.



Comparative Performance
401(a) Trailing Returns
As of December 31, 2018

	QTR		YTD		1 YR		3 YR		5 YR		7 YR		10 YR	
Wells Fargo Disciplined US Core (EVSIX)	-14.08	(61)	-8.08	(84)	-8.08	(84)	7.59	(61)	8.12	(21)	12.45	(23)	N/A	
S&P 500 Index	-13.52	(45)	-4.38	(31)	-4.38	(31)	9.26	(19)	8.49	(12)	12.70	(16)	13.12	(20)
IM U.S. Large Cap Core Equity (MF) Median	-13.78		-5.61		-5.61		8.00		7.13		11.61		12.02	
Vanguard Institutional Index (VINIX)	-13.53	(45)	-4.42	(31)	-4.42	(31)	9.22	(20)	8.46	(12)	12.66	(16)	13.11	(20)
S&P 500 Index	-13.52	(45)	-4.38	(31)	-4.38	(31)	9.26	(19)	8.49	(12)	12.70	(16)	13.12	(20)
IM U.S. Large Cap Core Equity (MF) Median	-13.78		-5.61		-5.61		8.00		7.13		11.61		12.02	
American Century Equity Income (AEUDX)	-7.36	(4)	-4.17	(8)	-4.17	(8)	9.35	(7)	8.30	(1)	N/A		N/A	
Russell 1000 Value Index	-11.72	(29)	-8.27	(35)	-8.27	(35)	6.95	(37)	5.95	(29)	11.02	(26)	11.18	(34)
IM U.S. Large Cap Value Equity (MF) Median	-12.93		-9.01		-9.01		6.45		5.32		10.23		10.54	
Balanced Fund														
American Funds American Balanced (RLBGX)	-6.54	(33)	-2.42	(7)	-2.42	(7)	7.17	(4)	6.52	(1)	9.76	(2)	N/A	
American Balanced Fund Hybrid	-6.05	(27)	-1.90	(5)	-1.90	(5)	5.78	(25)	5.65	(4)	7.45	(31)	8.46	(44)
IM All Balanced (MF) Median	-8.61		-6.27		-6.27		4.74		3.43		6.34		8.16	
WCAB 2060 Retirement	-13.72	(94)	-9.02	(66)	-9.02	(66)	N/A		N/A		N/A		N/A	
The WCAB 2060 Retirement Portfolio Policy	-11.61	(32)	-5.80	(4)	-5.80	(4)	N/A		N/A		N/A		N/A	
IM Mixed-Asset Target 2055 (MF) Median	-11.92		-8.48		-8.48		6.25		4.32		8.49		9.62	
WCAB 2055 Retirement	-13.72	(94)	-9.02	(66)	-9.02	(66)	N/A		N/A		N/A		N/A	
The WCAB 2055 Retirement Portfolio Policy	-11.61	(32)	-5.80	(4)	-5.80	(4)	N/A		N/A		N/A		N/A	
IM Mixed-Asset Target 2055 (MF) Median	-11.92		-8.48		-8.48		6.25		4.32		8.49		9.62	
WCAB 2050 Retirement	-13.63	(90)	-9.00	(64)	-9.00	(64)	6.57	(25)	4.82	(22)	9.11	(19)	10.76	(7)
The WCAB 2050 Retirement Portfolio Policy	-11.46	(35)	-5.75	(4)	-5.75	(4)	7.46	(4)	6.12	(1)	9.80	(4)	10.72	(7)
IM Mixed-Asset Target 2050 (MF) Median	-11.84		-8.54		-8.54		6.13		4.19		8.30		9.58	
WCAB 2045 Retirement	-13.49	(95)	-8.89	(69)	-8.89	(69)	N/A		N/A		N/A		N/A	
The WCAB 2045 Retirement Portfolio Policy	-11.33	(33)	-5.68	(4)	-5.68	(4)	N/A		N/A		N/A		N/A	
IM Mixed-Asset Target 2045 (MF) Median	-11.77		-8.19		-8.19		6.18		4.31		8.29		9.78	
WCAB 2040 Retirement	-12.69	(91)	-8.31	(61)	-8.31	(61)	6.48	(23)	4.83	(16)	8.63	(25)	10.24	(19)
The WCAB 2040 Retirement Portfolio Policy	-10.72	(35)	-5.36	(2)	-5.36	(2)	7.09	(6)	5.81	(2)	9.07	(15)	9.97	(28)
IM Mixed-Asset Target 2040 (MF) Median	-11.04		-7.98		-7.98		5.86		4.05		8.00		9.49	
WCAB 2035 Retirement	-11.93	(97)	-7.82	(71)	-7.82	(71)	N/A		N/A		N/A		N/A	
The WCAB 2035 Retirement Portfolio Policy	-10.00	(44)	-5.04	(3)	-5.04	(3)	N/A		N/A		N/A		N/A	
IM Mixed-Asset Target 2035 (MF) Median	-10.19		-7.26		-7.26		5.87		4.07		7.74		9.42	
WCAB 2030 Retirement	-11.06	(96)	-6.70	(57)	-6.70	(57)	6.33	(10)	4.75	(9)	8.08	(22)	9.75	(18)
The WCAB 2030 Retirement Portfolio Policy	-9.06	(53)	-4.18	(6)	-4.18	(6)	6.46	(8)	5.41	(2)	8.30	(14)	9.20	(40)
IM Mixed-Asset Target 2030 (MF) Median	-8.98		-6.32		-6.32		5.40		3.76		7.23		8.86	

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Comparative Performance
401(a) Trailing Returns
As of December 31, 2018

	QTR		YTD		1 YR		3 YR		5 YR		7 YR		10 YR	
WCAB 2025 Retirement	-9.60	(97)	-5.66	(59)	-5.66	(59)	N/A		N/A		N/A		N/A	
The WCAB 2025 Retirement Portfolio Policy	-7.88	(65)	-3.53	(7)	-3.53	(7)	N/A		N/A		N/A		N/A	
IM Mixed-Asset Target 2025 (MF) Median	-7.56		-5.26		-5.26		5.06		3.56		6.64		8.55	
WCAB 2020 Retirement	-8.19	(94)	-4.73	(55)	-4.73	(55)	5.82	(2)	4.53	(2)	7.13	(8)	8.74	(12)
The WCAB 2020 Retirement Portfolio Policy	-6.71	(64)	-2.99	(7)	-2.99	(7)	5.41	(8)	4.65	(1)	6.88	(14)	7.77	(50)
IM Mixed-Asset Target 2020 (MF) Median	-6.29		-4.52		-4.52		4.51		3.14		5.90		7.74	
WCAB 2015 Retirement	-7.01	(94)	-3.49	(36)	-3.49	(36)	N/A		N/A		N/A		N/A	
The WCAB 2015 Retirement Portfolio Policy	-5.62	(46)	-2.06	(1)	-2.06	(1)	N/A		N/A		N/A		N/A	
IM Mixed-Asset Target 2015 (MF) Median	-5.71		-3.90		-3.90		4.43		3.28		5.87		7.71	
WCAB Income Retirement	-5.18	(80)	-2.54	(18)	-2.54	(18)	5.01	(3)	4.26	(1)	6.16	(1)	7.71	(1)
The WCAB Income Retirement Portfolio Policy	-3.87	(42)	-1.36	(5)	-1.36	(5)	4.21	(15)	3.77	(1)	5.32	(7)	6.14	(31)
IM Mixed-Asset Target Today (MF) Median	-4.18		-3.62		-3.62		3.38		2.35		3.63		5.56	
Fixed Income														
PIMCO High Yield (PHIYX)	-4.15	(30)	-2.49	(36)	-2.49	(36)	5.55	(49)	3.58	(13)	5.40	(27)	9.48	(45)
ICE BofAML High Yield Master II	-4.67	(49)	-2.27	(32)	-2.27	(32)	7.27	(6)	3.82	(9)	5.94	(12)	10.99	(6)
IM U.S. High Yield Bonds (MF) Median	-4.76		-2.91		-2.91		5.52		2.71		4.97		9.35	
PIMCO Foreign Bond USD-Hedged (PFORX)	0.69	(51)	2.63	(7)	2.63	(7)	4.38	(4)	4.88	(2)	5.18	(1)	7.05	(3)
Bloomberg Barclays Global Aggregate	1.20	(40)	-1.19	(46)	-1.19	(46)	2.70	(65)	1.08	(41)	1.00	(64)	2.49	(74)
IM International Fixed Income (MF) Median	0.78		-2.68		-2.68		3.16		0.65		1.70		3.99	
Hartford Total Return Bond (HIABX)	0.37	(83)	-0.81	(60)	-0.81	(60)	2.91	(5)	2.79	(13)	2.85	(11)	4.88	(22)
Blmbg. Barc. U.S. Aggregate Index	1.64	(11)	0.01	(18)	0.01	(18)	2.06	(45)	2.52	(28)	2.10	(58)	3.48	(78)
IM U.S. Broad Market Core Fixed Income (MF) Median	0.99		-0.63		-0.63		1.99		2.26		2.18		4.24	
Cash														
MassMutual Guaranteed Interest Account	0.78	(7)	3.38	(1)	3.38	(1)	3.66	(1)	3.80	(1)	3.85	(1)	N/A	
Ryan 3 Yr GIC Master Index	0.53	(71)	1.96	(86)	1.96	(86)	1.65	(90)	1.43	(100)	1.38	(100)	2.01	(82)
IM U.S. GIC/Stable Value (SA+CF) Median	0.60		2.17		2.17		1.93		1.82		1.77		2.16	

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Comparative Performance
401(a) Calendar Returns
As of December 31, 2018

Comparative Performance	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
International Equity										
Lazard Emerging Markets Equity (LZOEX)	27.73 (82)	20.17 (6)	-20.33 (93)	-4.39 (69)	-1.14 (48)	22.03 (18)	-18.02 (32)	22.43 (22)	69.14 (63)	-48.09 (17)
MSCI Emerging Markets (Net) Index	37.28 (42)	11.19 (30)	-14.92 (63)	-2.19 (43)	-2.60 (58)	18.23 (56)	-18.42 (36)	18.88 (44)	78.51 (26)	-53.33 (42)
IM Emerging Markets Equity (MF) Median	35.37	8.35	-13.66	-2.92	-1.42	18.78	-19.51	18.32	72.67	-54.63
DFA International Small Cap Value (DISVX)	27.98 (86)	8.00 (9)	3.99 (52)	-4.99 (31)	32.39 (12)	22.26 (29)	-17.46 (51)	18.10 (81)	39.51 (90)	-41.68 (10)
MSCI AC World ex USA Small Cap (Net)	31.65 (52)	3.91 (35)	2.60 (55)	-4.03 (26)	19.73 (84)	18.52 (72)	-18.50 (61)	25.21 (6)	62.91 (19)	-50.23 (51)
IM International SMID Cap Core Equity (MF) Median	32.05	-0.37	4.77	-6.02	24.35	20.20	-17.38	23.75	47.05	-49.78
American Funds EuroPacific Growth (RERGX)	31.17 (9)	1.01 (57)	-0.48 (16)	-2.29 (26)	20.58 (48)	19.64 (30)	-13.31 (55)	9.76 (23)	N/A	N/A
MSCI EAFE (Net) Index	25.03 (38)	1.00 (58)	-0.81 (21)	-4.90 (35)	22.78 (22)	17.32 (55)	-12.14 (38)	7.75 (41)	31.78 (28)	-43.38 (59)
IM International Large Cap Core Equity (MF) Median	24.46	1.43	-2.38	-5.89	20.47	17.70	-13.09	7.28	29.51	-42.07
Domestic Equity										
Wells Fargo Small Co Growth (WSCRX)	20.68 (23)	7.76 (75)	-4.33 (64)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Russell 2000 Growth Index	22.17 (20)	11.32 (45)	-1.38 (41)	5.60 (6)	43.30 (42)	14.59 (29)	-2.91 (28)	29.09 (32)	34.47 (44)	-38.54 (15)
IM U.S. Small Cap Growth Equity (MF) Median	17.00	10.02	-3.12	0.58	42.25	12.06	-4.99	26.76	33.05	-42.69
Vanguard Small Cap Index (VSMAX)	16.24 (20)	18.30 (81)	-3.64 (44)	7.50 (9)	37.81 (44)	18.24 (16)	-2.69 (36)	27.89 (25)	36.33 (30)	-36.00 (47)
Vanguard Spliced Small Cap Index	16.24 (20)	18.26 (81)	-3.68 (45)	7.54 (8)	37.77 (44)	18.20 (17)	-2.75 (37)	27.82 (25)	36.15 (31)	-36.20 (49)
IM U.S. Small Cap Core Equity (MF) Median	12.19	22.95	-4.26	3.99	36.91	14.44	-4.24	25.20	28.10	-36.33
AMG Managers Skyline Special Equities (SKSEX)	8.39 (51)	21.32 (85)	-6.05 (22)	4.02 (34)	51.59 (4)	19.34 (22)	-2.05 (38)	26.07 (35)	52.79 (13)	-40.15 (77)
Russell 2000 Value Index	7.84 (57)	31.74 (29)	-7.47 (47)	4.22 (32)	34.52 (54)	18.05 (28)	-5.50 (57)	24.50 (55)	20.58 (82)	-28.92 (26)
IM U.S. Small Cap Value Equity (MF) Median	8.44	29.90	-7.59	2.69	35.16	15.36	-4.00	24.82	28.83	-31.91
Hartford Mid Cap (HIMCX)	24.47 (56)	11.98 (8)	1.60 (34)	11.37 (13)	39.82 (14)	19.44 (7)	-7.92 (78)	23.45 (67)	30.96 (74)	-35.32 (5)
Russell Midcap Growth Index	25.27 (44)	7.33 (29)	-0.20 (53)	11.90 (11)	35.74 (45)	15.81 (31)	-1.65 (29)	26.38 (47)	46.29 (22)	-44.32 (48)
IM U.S. Mid Cap Growth Equity (MF) Median	24.84	5.11	0.17	7.24	35.27	14.19	-4.42	25.85	39.44	-44.65
Vanguard Mid Cap Index (VIMAX)	19.25 (17)	11.22 (79)	-1.34 (21)	13.76 (9)	35.15 (47)	15.99 (50)	-1.97 (32)	25.59 (22)	40.48 (18)	-41.78 (73)
Vanguard Spliced Mid Cap Index	19.30 (17)	11.25 (77)	-1.28 (20)	13.83 (8)	35.21 (45)	16.04 (49)	-1.91 (30)	25.69 (20)	40.49 (18)	-41.80 (73)
IM U.S. Mid Cap Core Equity (MF) Median	15.15	14.51	-3.46	8.98	34.76	15.95	-3.58	23.28	33.35	-38.74
Hotchkis & Wiley Mid Cap Value (HWMIX)	7.78 (88)	21.00 (24)	-12.53 (97)	12.18 (25)	42.55 (5)	31.09 (1)	-8.60 (96)	34.41 (1)	56.49 (5)	-43.05 (89)
Russell Midcap Value Index	13.34 (47)	20.00 (34)	-4.78 (52)	14.75 (11)	33.46 (74)	18.51 (23)	-1.38 (34)	24.75 (30)	34.21 (61)	-38.44 (51)
IM U.S. Mid Cap Value Equity (MF) Median	12.67	17.39	-4.58	10.30	35.97	16.57	-3.16	21.69	36.99	-38.36
American Funds Growth Fund of America (RGAGX)	26.53 (77)	8.82 (2)	5.70 (54)	9.63 (59)	34.29 (47)	20.98 (4)	-4.53 (76)	12.67 (71)	N/A	N/A
Russell 1000 Growth Index	30.21 (41)	7.08 (8)	5.67 (54)	13.05 (22)	33.48 (55)	15.26 (46)	2.64 (10)	16.71 (34)	37.21 (42)	-38.44 (39)
IM U.S. Large Cap Growth Equity (MF) Median	29.46	2.11	6.00	10.46	33.94	14.76	-1.77	15.19	35.22	-39.77

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Comparative Performance
401(a) Calendar Returns
As of December 31, 2018

	2017		2016		2015		2014		2013		2012		2011		2010		2009		2008	
Wells Fargo Disciplined US Core (EVSIX)	20.88	(55)	12.09	(25)	2.53	(21)	15.69	(4)	33.97	(23)	14.90	(56)	4.12	(13)	N/A		N/A		N/A	
S&P 500 Index	21.83	(38)	11.96	(26)	1.38	(32)	13.69	(16)	32.39	(38)	16.00	(39)	2.11	(22)	15.06	(25)	26.46	(51)	-37.00	(49)
IM U.S. Large Cap Core Equity (MF) Median	21.16		10.07		0.11		11.35		31.77		15.34		-0.59		13.13		26.58		-37.05	
Vanguard Institutional Index (VINIX)	21.79	(39)	11.93	(27)	1.37	(32)	13.65	(16)	32.35	(39)	15.98	(40)	2.09	(22)	15.05	(25)	26.63	(50)	-36.95	(49)
S&P 500 Index	21.83	(38)	11.96	(26)	1.38	(32)	13.69	(16)	32.39	(38)	16.00	(39)	2.11	(22)	15.06	(25)	26.46	(51)	-37.00	(49)
IM U.S. Large Cap Core Equity (MF) Median	21.16		10.07		0.11		11.35		31.77		15.34		-0.59		13.13		26.58		-37.05	
American Century Equity Income (AEUDX)	13.83	(76)	19.88	(8)	0.94	(4)	12.84	(15)	N/A		N/A									
Russell 1000 Value Index	13.66	(76)	17.34	(20)	-3.83	(57)	13.45	(8)	32.53	(47)	17.51	(28)	0.39	(28)	15.51	(21)	19.69	(73)	-36.85	(48)
IM U.S. Large Cap Value Equity (MF) Median	16.39		13.86		-3.58		10.85		32.28		15.79		-2.23		12.97		24.00		-37.02	
Balanced Fund																				
American Funds American Balanced (RLBGX)	15.84	(40)	8.90	(18)	2.03	(3)	9.22	(5)	22.12	(19)	14.57	(23)	4.16	(6)	13.39	(34)	N/A		N/A	
American Balanced Fund Hybrid	12.37	(63)	7.38	(40)	1.21	(4)	9.85	(4)	14.08	(55)	10.13	(73)	5.28	(4)	11.29	(65)	16.34	(91)	-17.94	(13)
IM All Balanced (MF) Median	14.22		6.81		-1.59		4.73		15.23		12.14		-1.48		12.29		26.02		-29.54	
WCAB 2060 Retirement	19.06	(88)	N/A		N/A															
The WCAB 2060 Retirement Portfolio Policy	20.16	(73)	N/A		N/A															
IM Mixed-Asset Target 2055 (MF) Median	21.12		8.25		-1.67		5.43		23.21		15.58		-4.66		14.78		30.80		-40.69	
WCAB 2055 Retirement	19.06	(88)	N/A		N/A															
The WCAB 2055 Retirement Portfolio Policy	20.16	(73)	N/A		N/A															
IM Mixed-Asset Target 2055 (MF) Median	21.12		8.25		-1.67		5.43		23.21		15.58		-4.66		14.78		30.80		-40.69	
WCAB 2050 Retirement	18.90	(84)	11.88	(5)	-1.95	(59)	6.64	(25)	25.10	(23)	16.28	(26)	-4.13	(44)	17.93	(1)	33.46	(34)	-34.84	(6)
The WCAB 2050 Retirement Portfolio Policy	19.96	(72)	9.74	(14)	-0.34	(14)	8.81	(3)	24.71	(27)	14.68	(71)	-0.69	(7)	14.29	(58)	26.79	(99)	-33.35	(1)
IM Mixed-Asset Target 2050 (MF) Median	20.80		8.10		-1.64		5.61		23.08		15.49		-4.37		14.75		31.42		-39.08	
WCAB 2045 Retirement	18.72	(84)	N/A		N/A															
The WCAB 2045 Retirement Portfolio Policy	19.74	(69)	N/A		N/A															
IM Mixed-Asset Target 2045 (MF) Median	20.65		8.15		-1.66		5.55		23.07		15.48		-4.03		15.03		31.12		-38.51	
WCAB 2040 Retirement	18.16	(79)	11.43	(5)	-1.44	(44)	6.39	(26)	22.17	(46)	15.41	(37)	-2.67	(25)	16.48	(9)	31.03	(49)	-31.07	(1)
The WCAB 2040 Retirement Portfolio Policy	18.88	(70)	9.17	(16)	-0.24	(13)	8.23	(3)	21.96	(48)	13.52	(79)	-0.23	(6)	13.31	(70)	24.59	(95)	-30.38	(1)
IM Mixed-Asset Target 2040 (MF) Median	19.74		7.95		-1.67		5.38		21.68		14.93		-3.92		14.62		30.70		-38.09	
WCAB 2035 Retirement	17.40	(75)	N/A		N/A															
The WCAB 2035 Retirement Portfolio Policy	17.82	(71)	N/A		N/A															
IM Mixed-Asset Target 2035 (MF) Median	18.72		7.75		-1.54		5.39		20.77		14.77		-3.34		14.55		30.99		-36.09	
WCAB 2030 Retirement	15.96	(66)	11.11	(5)	-1.35	(45)	6.36	(20)	19.21	(41)	14.56	(36)	-1.71	(30)	15.53	(11)	29.56	(43)	-28.65	(1)
The WCAB 2030 Retirement Portfolio Policy	16.16	(61)	8.41	(18)	-0.08	(7)	7.93	(1)	19.45	(38)	12.40	(75)	0.41	(9)	12.40	(79)	22.29	(94)	-27.19	(1)
IM Mixed-Asset Target 2030 (MF) Median	16.92		7.30		-1.47		5.17		17.84		13.73		-2.54		13.62		28.81		-36.38	

Returns for periods greater than one year are annualized.
Returns are expressed as percentages.



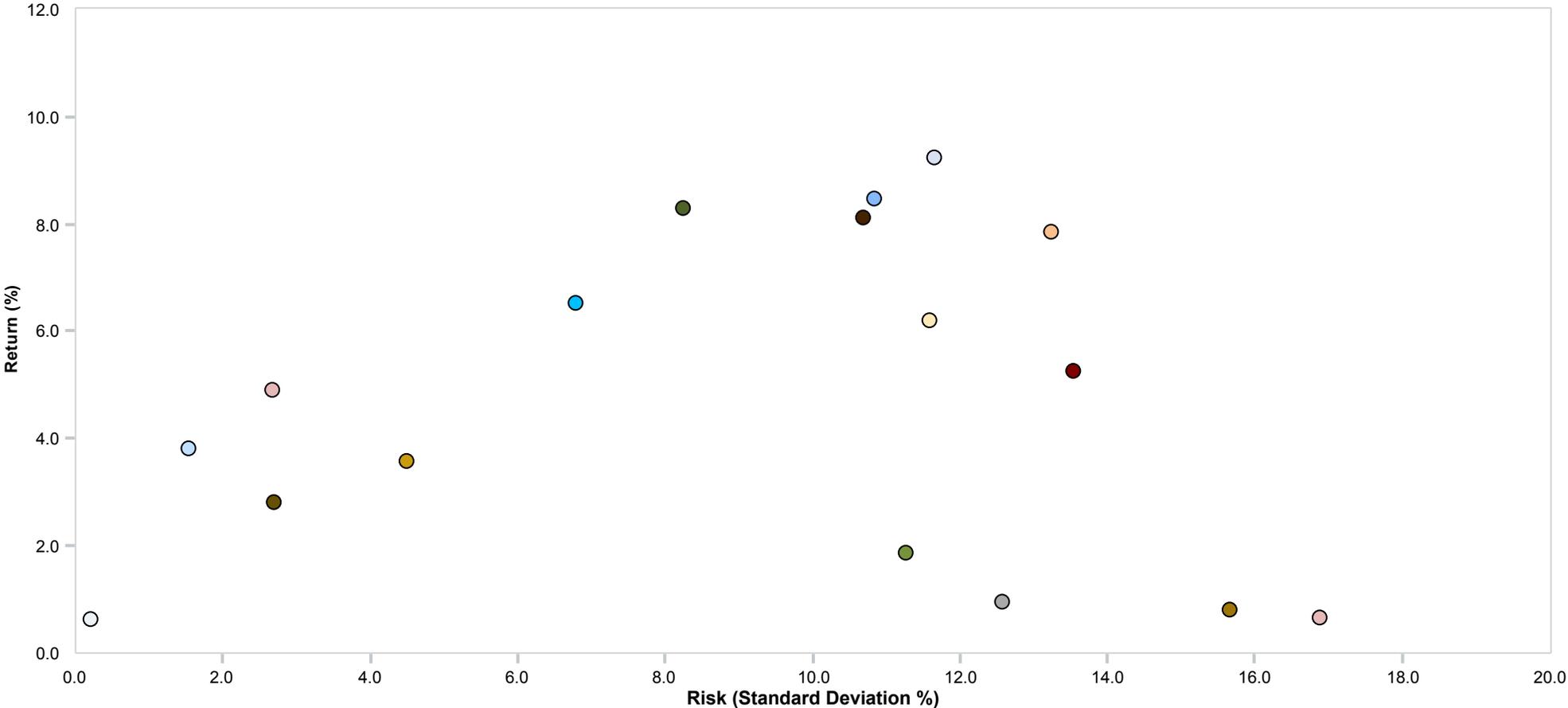
Comparative Performance
401(a) Calendar Returns
As of December 31, 2018

	2017		2016		2015		2014		2013		2012		2011		2010		2009		2008	
WCAB 2025 Retirement	14.73	(53)	N/A		N/A															
The WCAB 2025 Retirement Portfolio Policy	14.49	(57)	N/A		N/A															
IM Mixed-Asset Target 2025 (MF) Median	14.95		6.87		-1.38		5.16		15.84		13.00		-2.02		13.41		28.95		-35.04	
WCAB 2020 Retirement	13.52	(30)	9.56	(1)	-0.71	(23)	6.09	(12)	14.86	(27)	12.96	(28)	-0.23	(46)	13.65	(24)	25.92	(51)	-23.68	(13)
The WCAB 2020 Retirement Portfolio Policy	12.81	(48)	7.02	(29)	0.07	(4)	7.07	(1)	14.96	(26)	10.45	(72)	1.18	(21)	10.65	(81)	18.43	(93)	-21.50	(8)
IM Mixed-Asset Target 2020 (MF) Median	12.69		6.36		-1.45		4.72		11.83		11.52		-0.40		12.30		26.02		-31.77	
WCAB 2015 Retirement	11.81	(38)	N/A		N/A															
The WCAB 2015 Retirement Portfolio Policy	10.98	(62)	N/A		N/A															
IM Mixed-Asset Target 2015 (MF) Median	11.40		6.40		-1.30		4.45		10.41		10.79		-0.11		11.48		25.34		-29.31	
WCAB Income Retirement	10.22	(28)	7.81	(6)	0.10	(3)	6.27	(2)	10.99	(2)	11.15	(8)	1.66	(75)	11.58	(9)	21.97	(28)	-18.10	(71)
The WCAB Income Retirement Portfolio Policy	9.06	(47)	5.19	(47)	0.26	(1)	6.08	(4)	10.51	(5)	8.08	(67)	2.13	(68)	8.66	(67)	13.73	(83)	-14.85	(35)
IM Mixed-Asset Target Today (MF) Median	8.85		5.07		-1.42		3.86		5.33		8.86		2.78		9.40		18.26		-16.26	
Fixed Income																				
PIMCO High Yield (PHIYX)	7.02	(38)	12.68	(65)	-1.88	(24)	3.31	(12)	5.77	(70)	14.57	(53)	4.00	(37)	14.28	(45)	44.09	(64)	-23.62	(38)
ICE BofAML High Yield Master II	7.48	(25)	17.49	(5)	-4.64	(64)	2.50	(22)	7.42	(30)	15.58	(33)	4.38	(27)	15.19	(28)	57.51	(11)	-26.39	(61)
IM U.S. High Yield Bonds (MF) Median	6.65		13.52		-3.85		1.48		6.61		14.72		3.32		14.04		47.59		-24.95	
PIMCO Foreign Bond USD-Hedged (PFORX)	3.53	(69)	7.03	(7)	0.40	(9)	11.16	(3)	0.90	(17)	11.19	(22)	6.77	(8)	9.19	(30)	19.04	(17)	-2.36	(80)
Bloomberg Barclays Global Aggregate	7.39	(59)	2.09	(61)	-3.15	(24)	0.59	(52)	-2.60	(37)	4.32	(79)	5.64	(17)	5.54	(69)	6.93	(66)	4.79	(33)
IM International Fixed Income (MF) Median	9.80		3.34		-5.82		0.63		-3.74		7.43		2.56		7.26		10.01		2.41	
Hartford Total Return Bond (HIABX)	5.16	(4)	4.49	(8)	-0.59	(75)	5.89	(32)	-1.36	(26)	7.54	(20)	6.99	(37)	7.51	(42)	15.01	(32)	-7.62	(70)
Blmbg. Barc. U.S. Aggregate Index	3.54	(53)	2.65	(61)	0.55	(20)	5.97	(26)	-2.02	(53)	4.21	(81)	7.84	(11)	6.54	(69)	5.93	(90)	5.24	(10)
IM U.S. Broad Market Core Fixed Income (MF) Median	3.58		2.86		0.09		5.55		-1.98		5.99		6.65		7.25		12.12		-3.46	
Cash																				
MassMutual Guaranteed Interest Account	3.67	(1)	3.94	(1)	4.00	(1)	4.00	(1)	4.00	(1)	4.00	(3)	4.00	(6)	N/A		N/A		N/A	
Ryan 3 Yr GIC Master Index	1.60	(95)	1.39	(94)	1.16	(94)	1.03	(95)	1.06	(92)	1.48	(99)	2.44	(61)	3.53	(42)	4.49	(12)	4.79	(28)
IM U.S. GIC/Stable Value (SA+CF) Median	1.86		1.85		1.82		1.70		1.70		2.41		2.91		3.39		3.68		4.65	

Returns for periods greater than one year are annualized.
Returns are expressed as percentages.



Risk and Return



- Lazard Emerging Markets Equity (LZOEX)
- Wells Fargo Small Co Growth (WSCRX)
- Hartford Mid Cap (HIMCX)
- American Funds Growth Fund of America (RGAGX)
- American Century Equity Income (AEUDX)
- PIMCO Foreign Bond USD-Hedged (PFORX)
- 90 Day U.S. Treasury Bill
- DFA International Small Cap Value (DISVX)
- Vanguard Small Cap Index (VSMAX)
- Vanguard Mid Cap Index (VIMAX)
- Wells Fargo Disciplined US Core (EVSIX)
- American Funds American Balanced (RLBGX)
- Hartford Total Return Bond (HIABX)
- American Funds EuroPacific Growth (RERGX)
- AMG Managers Skyline Special Equities (SKSEX)
- Hotchkis & Wiley Mid Cap Value (HWMIX)
- Vanguard Institutional Index (VINIX)
- PIMCO High Yield (PHIYX)
- MassMutual Guaranteed Interest Account

Calculation based on monthly periodicity.



Age Based Strategy Model Allocation by Broad Asset Class

Investment Name	Stocks	Bonds	Cash	Other	Total
Washoe County Age Based Strategy Model 2060	85.1%	12.2%	1.3%	1.4%	100.0%
Washoe County Age Based Strategy Model 2055	85.3%	12.2%	1.3%	1.2%	100.0%
Washoe County Age Based Strategy Model 2050	84.3%	13.1%	1.3%	1.3%	100.0%
Washoe County Age Based Strategy Model 2045	83.3%	13.1%	2.3%	1.3%	100.0%
Washoe County Age Based Strategy Model 2040	79.4%	14.4%	4.9%	1.3%	100.0%
Washoe County Age Based Strategy Model 2035	74.7%	15.2%	8.8%	1.3%	100.0%
Washoe County Age Based Strategy Model 2030	67.9%	18.4%	12.3%	1.4%	100.0%
Washoe County Age Based Strategy Model 2025	60.1%	21.6%	16.9%	1.4%	100.0%
Washoe County Age Based Strategy Model 2020	52.4%	22.7%	23.4%	1.4%	100.0%
Washoe County Age Based Strategy Model 2015	44.5%	26.2%	27.7%	1.6%	100.0%
Washoe County Age Based Strategy Model Income 2010	34.0%	42.3%	21.9%	1.8%	100.0%



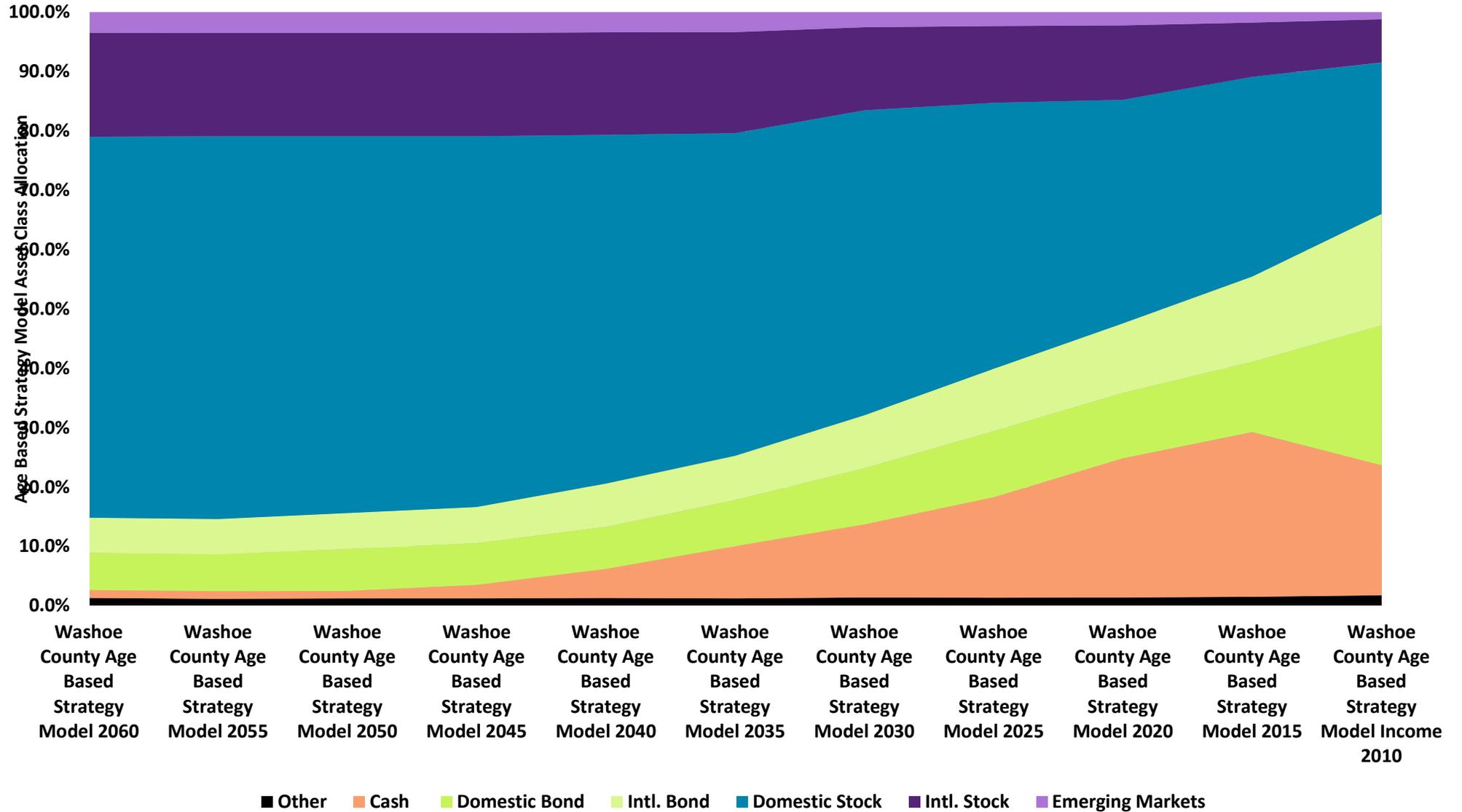
Washoe County Age Based Strategy Models
Age Based Strategy Model Asset Allocation
As of December 31, 2018

Age Based Strategy Model Allocation by Sub Asset Class

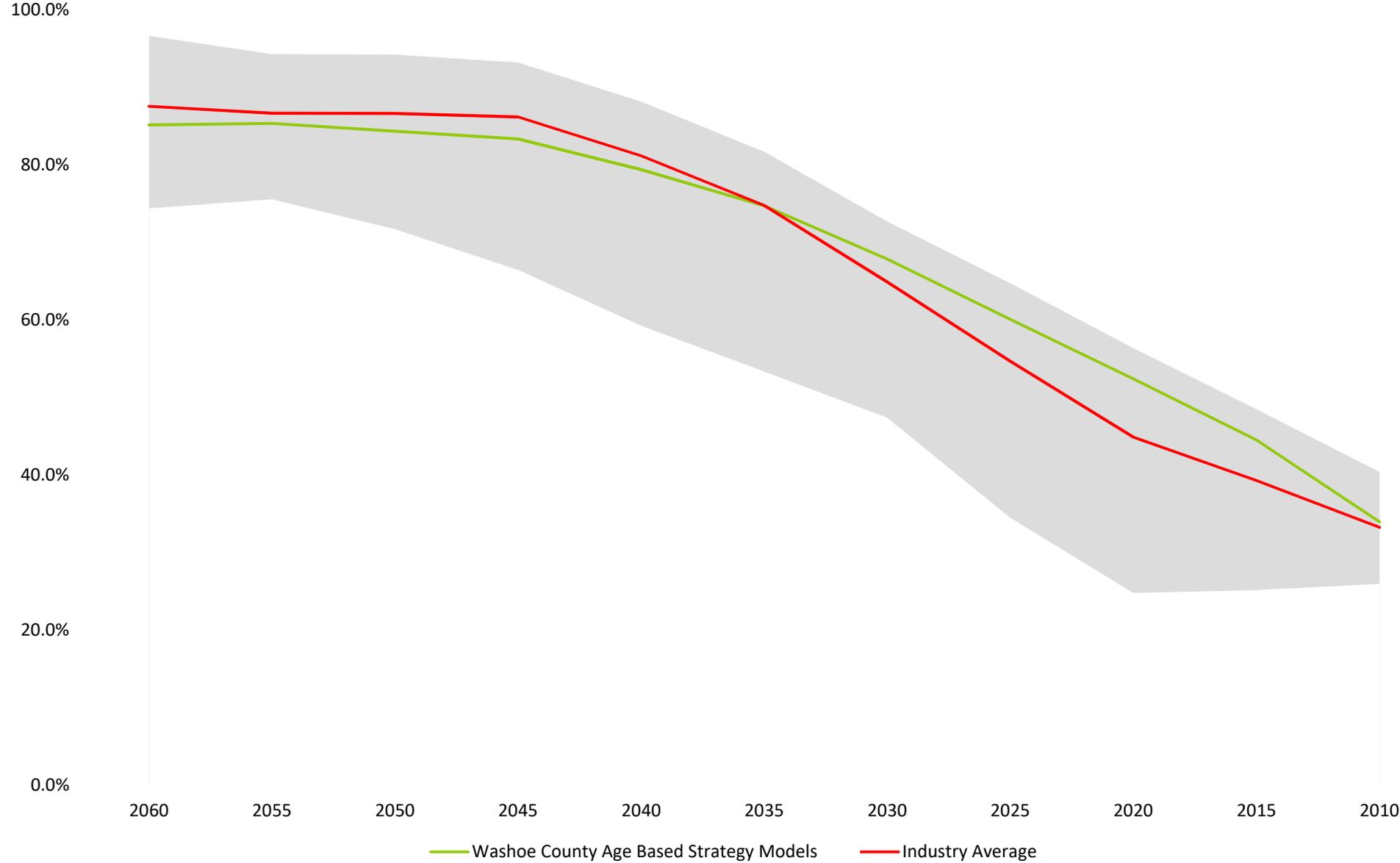
Investment Name	Emerging Markets	Intl. Stock	Domestic Stock	Intl. Bond	Domestic Bond	Cash	Other	Total
Washoe County Age Based Strategy Model 2060	3.5%	17.5%	64.2%	5.9%	6.2%	1.3%	1.4%	100.0%
Washoe County Age Based Strategy Model 2055	3.5%	17.4%	64.4%	5.9%	6.2%	1.3%	1.2%	100.0%
Washoe County Age Based Strategy Model 2050	3.5%	17.4%	63.4%	6.1%	7.1%	1.3%	1.3%	100.0%
Washoe County Age Based Strategy Model 2045	3.5%	17.4%	62.4%	6.1%	7.1%	2.3%	1.3%	100.0%
Washoe County Age Based Strategy Model 2040	3.4%	17.3%	58.7%	7.3%	7.0%	4.9%	1.3%	100.0%
Washoe County Age Based Strategy Model 2035	3.4%	17.0%	54.3%	7.5%	7.8%	8.8%	1.3%	100.0%
Washoe County Age Based Strategy Model 2030	2.5%	14.0%	51.4%	9.0%	9.4%	12.3%	1.4%	100.0%
Washoe County Age Based Strategy Model 2025	2.4%	12.9%	44.8%	10.5%	11.1%	16.9%	1.4%	100.0%
Washoe County Age Based Strategy Model 2020	2.2%	12.5%	37.6%	11.7%	11.0%	23.4%	1.4%	100.0%
Washoe County Age Based Strategy Model 2015	1.7%	9.1%	33.6%	14.4%	11.8%	27.7%	1.6%	100.0%
Washoe County Age Based Strategy Model Income 2010	1.2%	7.3%	25.5%	18.8%	23.5%	21.9%	1.8%	100.0%



Age Based Strategy Model Allocation Graph by Sub Asset Class



Age Based Strategy Model Equity Glide Path Ranges



Fee and Expense Summary

Mass Mutual requires 0.08% in revenue from the plan assets annually, 0.02% per quarter.
AndCo Consulting bills quarterly. The fee structure is \$60,000 per annum, paid in quarterly cash payments.

Plan Demographics

Total Assets*	\$163,997,040
Number of Participants with a Balance (active and terminated)	2,524

Expense Type Estimates (annual)	Percent of Assets	Dollar Cost	% Cost
MassMutual Recordkeeping fees	0.08%	\$131,198	0.08%
AndCo Consulting fees		\$60,000	0.04%
Total plan expenses		\$ 191,198	0.12%

Revenue Sharing Estimates (annual)			
Revenue from participant annual fee	0.13%	\$213,196	
Net plan fee surplus (annual)		\$21,999	0.01%
Annual average total plan recordkeeping and administrative cost per participant (gross)**		\$84.47	

*Does not include outstanding loan values

**All revenue sharing monies are reimbursed to the participant accounts that utilize those funds. This policy was implemented on 1/1/18.



Weighted Fee and Revenue Sharing Evaluation

	Market Value	Expense Ratio	Expense Ratio Weighted Fee	Revenue Sharing	*Revenue Sharing \$
Lazard Emerging Markets Equity (LZOEX)	\$1,311,388	1.34%	\$17,573	0.40%	\$5,246
DFA International Small Cap Value (DISVX)	\$1,395,677	0.68%	\$9,491	0.00%	\$0
American Funds EuroPacific Growth (RERGX)	\$4,468,732	0.49%	\$21,897	0.00%	\$0
Wells Fargo Small Co Growth (WSCRX)	\$2,809,321	0.90%	\$25,284	0.00%	\$0
Vanguard Small Cap Index (VSMAX)	\$2,649,072	0.05%	\$1,325	0.00%	\$0
AMG Managers Skyline Special Equities (SKSEX)	\$2,268,724	1.17%	\$26,544	0.25%	\$5,672
Hartford Mid Cap (HIMCX)	\$8,585,097	0.70%	\$60,096	0.25%	\$21,463
Vanguard Mid Cap Index (VIMAX)	\$2,704,701	0.05%	\$1,352	0.00%	\$0
Hotchkis & Wiley Mid Cap Value (HWMIX)	\$2,552,025	0.99%	\$25,265	0.40%	\$10,208
AF Growth Fund of America (RGAGX)	\$13,647,586	0.33%	\$45,037	0.00%	\$0
Wells Fargo Disciplined US Core (EVSIX)	\$11,682,175	0.48%	\$56,074	0.15%	\$17,523
Vanguard Institutional Index (VINIX)	\$11,727,948	0.04%	\$4,691	0.00%	\$0
American Century Equity Income (AEUDX)	\$6,819,663	0.57%	\$38,872	0.00%	\$0
American Funds American Balanced (RLBGX)	\$5,987,807	0.28%	\$16,766	0.00%	\$0
PIMCO High Yield (PHIYX)	\$2,059,583	0.57%	\$11,740	0.00%	\$0
PIMCO Foreign Bond USD-Hedged (PFORX)	\$1,042,214	0.56%	\$5,836	0.00%	\$0
Hartford Total Return Bond (HIABX)	\$3,610,597	0.51%	\$18,414	0.25%	\$9,026
MassMutual Guaranteed Interest Account	\$78,674,730	0.00%	\$0	0.00%	\$0
TOTAL	\$163,997,040	0.24%	\$386,256	0.04%	\$69,138

*All revenue sharing monies are reimbursed to the participant accounts that utilize those funds. This policy was implemented on 1/1/18.



Summary of Fiduciary Education Modules

The 2018 Module series covered select fiduciary topics including:

- Creating and Maintaining a Fiduciary File
- Understanding Plan Fees
- Plan Benchmarking Methods & Best Practices

What Might One Find In The Fiduciary File?

- ❑ Current Plan Document / Adoption Agreement, Amendments & Summary Plan Description
- ❑ Current Trust / Custodial Agreement & any Amendments
- ❑ Trust Reports, & any monthly or Ad-hoc investment
- ❑ Committee Formation, Charter or other Governance
- ❑ Current Investment Policy Statement & copies of In
- ❑ Fidelity Bond Policy & Riders / Endorsements
- ❑ Committee meeting Agendas & Minutes for the last
- ❑ All Service provider contracts (Recordkeeper, Trust
- ❑ Plan & Participant Fee Disclosures or similar docu
- ❑ Most recent Request for Proposal (RFP), Request
- ❑ Fiduciary Liability Insurance Policy, if applicable
- ❑ Annual Report Forms 5500 with attached schedu
- years, if applicable

For illustrative and educational purposes only. This list may contain document documents that are not listed above.

Understanding Plan Fees - Different Fee Structures

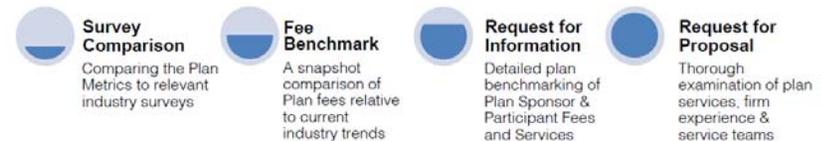
How are the fees being charged to the Plan or the Participants?

- **Asset Based Fees (%)**
 - Pro Rata: An asset based fee is assessed on the
- **Per Participant Fee (\$)**
 - Per Capita: A flat dollar fee is assessed on each
- **Hybrid Options (% + \$ = Total Fee)**
 - An asset based (%) fee in addition to a per cap
- **Revenue Sharing (%)**
 - Revenue rebates provided by the Mutual Fund

*2018 PLANSPPONSOR Industry Report

Plan Benchmarking – Selecting Methods

There are several ways to conduct comparisons of fees and services that vary in depth and detail. Regardless of the method for benchmarking, it is important to document the relevant discussions and results of the benchmark. In addition, determine a plan for any necessary follow-up action items.



Next Quarter's Module Topic: Reviewing the Fiduciary File

Reviewing Forfeiture & Expense Accounts

- Plan Forfeitures
 - Forfeitures refer to the non-vested portion of a participant's account at the time their employment is terminated
 - Verify if any forfeitures need to be processed and spend the forfeiture account balance based on plan provisions (i.e. use to offset or reduce current (future) contributions, reallocate as additional contributions, or pay eligible plan expenses)
- Expense Accounts
 - Expense Accounts give the ability to pay eligible plan-related expenses from plan assets
 - The Committee should have a procedure for spending any surplus amounts that remain in the account at least once per year

Reviewing Missing Participants

- **Governing Requirements**
 - Sponsors have a fiduciary responsibility to make a reasonable effort to find missing or unresponsive participants (qualified plans are required under ERISA)
- **Search Guidance**
 - Send notices to the participant's last known mailing address by certified mail
 - Check the records of related plans and employers
 - Check with the participant's designated plan beneficiary
 - Use a commercial locator service, a credit reporting agency, or a proprietary internet search tool for locating individuals
- **Practical Steps**
 - Work with your current recordkeeper to determine their process
 - Regularly distribute terminated participants with qualified balances

*US Department of Labor – Field Assistance Bulletin No. 2014-01



Fiduciary News – Acts, Orders, and Rules

- Executive Order
 - Reduces requirement for multiple-employer plans (MEPs)
 - Increases the Required Minimum Distribution (RMD) age
 - Encourages electronic notices
 - Creates portability for in-plan annuities
- H.R.88 - Retirement, Savings, and other Tax Relief Act of 2018*
 - Includes Pooled Employer Plan language (open MEPs), Safe Harbor 401k plan election improvements, and Lifetime income portability
- H.R.6757 - Family Savings Act of 2018**
 - Changes the rules relating to election of safe harbor 401(k) status by eliminating the notice requirement for non-elective contributions
 - Permits plan participants to roll over their lifetime income investment to another retirement savings vehicle if the plan sponsor decides to discontinue that investment option in the plan
- Fiduciary Standards
 - The DOL has indicated it will address unfinished business surrounding its investment-advice rule that was vacated by a federal court by September 2019
 - Regulation Best Interest - Proposed rule would require broker-dealers to act in the best interest of retail customers when recommending securities transactions

*Bill currently introduced in the US House of Representatives

**Bill currently being reviewed by the Senate Finance Committee



Fiduciary News – 2019 Contribution Limits

	2017	2018	2019
Elective Deferrals - 401(k), 403(b), and Most 457 Plans	\$18,000	\$18,500	\$19,000
Catch-up Contribution	\$6,000	\$6,000	\$6,000
DC Plan Combined Annual Contribution Limit	\$54,000	\$55,000	\$56,000
Defined Benefit Annual Benefit Limit	\$215,000	\$220,000	\$225,000
Highly Compensated Employee Threshold	\$120,000	\$120,000	\$125,000
Top Heavy Key Employee Dollar Limit	\$175,000	\$175,000	\$180,000
SIMPLE Plan Contribution Limit	\$12,500	\$12,500	\$13,000
SIMPLE Plan Catch-up	\$3,000	\$3,000	\$3,000
ESOP Maximum Balance Subject to Five-Year Distribution Rule	\$1,080,000	\$1,105,000	\$1,130,000
ESOP Amount to Determine Lengthening 5-Year Distribution Period	\$215,000	\$220,000	\$225,000
IRA Contribution Limit	\$5,500	\$5,500	\$6,000
IRA Catch-Up	\$1,000	\$1,000	\$1,000
HSA Contribution Limit, Single	\$3,400	\$3,450	\$3,500
HSA Contribution Limit, Non-Single	\$6,750	\$6,900	\$7,000

*Source: IRS Notice 2018-83

Next Quarter's Module Topic: Cyber Security, Part 1



2019 Fiduciary Documentation

Quarterly	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
Review of plan investments and compliance with investment policy statement	✓	✓	✓	✓
Follow required procedures, including documentation of all meetings and decisions	✓	✓	✓	✓
Review performance of providers	✓	✓	✓	✓
Annually				
Review QDIA selection	✓			
Allocation fund (Target Date or Risk-based) analysis	✓	✓	✓	✓
Investment policy statement review				✓
Employee education review	✓	✓	✓	✓
Plan recordkeeping & administration services review	✓	✓	✓	✓
Fee analysis	✓	✓	✓	✓
Other Projects				
Record-keeping Implementation	✓	✓		



Fund Information

Portfolio Manager : Team Managed	Ticker : LZOEX
PM Tenure :	Inception Date : 01/08/1997
Fund Assets : \$1,086 Million	Portfolio Turnover : 14%

Fund Investment Policy

The Fund seeks long term capital appreciation by investing primarily in equity securities, principally common stocks of non -U.S. companies whose principal activities are located in emerging market countries and that Lazard believes are undervalued based on their earning, cash flow or asset values.

Comparative Performance - Trailing

	QTR	YTD	1 YR	3 YR	5 YR	7 YR	10 YR
Lazard Emerging Markets Equity (LZOEX)	-5.58 (23)	-18.32 (68)	-18.32 (68)	7.83 (36)	-0.92 (81)	2.04 (70)	6.94 (67)
MSCI Emerging Markets (Net) Index	-7.47 (48)	-14.58 (30)	-14.58 (30)	9.25 (17)	1.65 (27)	3.23 (45)	8.02 (36)
IM Emerging Markets Equity (MF) 1st Quartile	-5.84	-14.02	-14.02	8.58	1.71	4.21	8.34
IM Emerging Markets Equity (MF) Median	-7.62	-16.41	-16.41	6.87	0.87	2.96	7.43
IM Emerging Markets Equity (MF) 3rd Quartile	-9.01	-19.05	-19.05	5.24	-0.42	1.77	6.58

Comparative Performance - Calendar

	2017	2016	2015	2014	2013	2012	2011
Lazard Emerging Markets Equity (LZOEX)	27.73 (82)	20.17 (6)	-20.33 (93)	-4.39 (69)	-1.14 (48)	22.03 (18)	-18.02 (32)
MSCI Emerging Markets (Net) Index	37.28 (42)	11.19 (30)	-14.92 (63)	-2.19 (43)	-2.60 (58)	18.23 (56)	-18.42 (36)
IM Emerging Markets Equity (MF) 1st Quartile	40.40	11.80	-9.95	-0.22	2.73	20.70	-17.42
IM Emerging Markets Equity (MF) Median	35.37	8.35	-13.66	-2.92	-1.42	18.78	-19.51
IM Emerging Markets Equity (MF) 3rd Quartile	29.42	4.00	-16.19	-5.04	-4.73	15.35	-23.06

Comparative Performance - Quarterly

	Sep-2018	Jun-2018	Mar-2018	Dec-2017	Sep-2017	Jun-2017	Mar-2017
Lazard Emerging Markets Equity (LZOEX)	-1.70 (39)	-13.67 (98)	1.94 (51)	6.20 (54)	6.80 (66)	2.04 (94)	10.36 (74)
MSCI Emerging Markets (Net) Index	-1.09 (25)	-7.96 (32)	1.42 (62)	7.44 (22)	7.89 (49)	6.27 (41)	11.44 (57)
IM Emerging Markets Equity (MF) 1st Quartile	-1.13	-7.48	3.01	7.31	9.34	7.09	13.06
IM Emerging Markets Equity (MF) Median	-2.44	-9.06	1.97	6.38	7.84	5.97	11.94
IM Emerging Markets Equity (MF) 3rd Quartile	-4.56	-10.26	0.74	5.21	5.72	4.68	10.25

MPT Stats

	1 YR	3 YR	5 YR
Standard Deviation	14.90	14.85	16.08
Downside Risk	12.85	8.64	11.31
vs. MSCI Emerging Markets (Net) Index			
Alpha	-5.43	-0.80	-2.40
Beta	0.92	0.95	1.01
Down Market Capture	114.20	108.32	114.33
Information Ratio	-0.71	-0.24	-0.46
Tracking Error	6.21	5.30	5.19
Up Market Capture	98.29	99.81	101.77
vs. 90 Day U.S. Treasury Bill			
Sharpe Ratio	-1.40	0.51	-0.01

Ranking vs. IM Emerging Markets Equity (MF) 4 Quarters Rolling Periods

	Periods	5-25	25-Median	Median-75	75-95
Lazard Emerging Markets Equity (LZOEX)	28	8 (29%)	4 (14%)	8 (29%)	8 (29%)
MSCI Emerging Markets (Net) Index	28	1 (4%)	18 (64%)	9 (32%)	0 (0%)

Ranking vs. IM Emerging Markets Equity (MF) 12 Quarters Rolling Periods

	Periods	5-25	25-Median	Median-75	75-95
Lazard Emerging Markets Equity (LZOEX)	28	5 (18%)	8 (29%)	10 (36%)	5 (18%)
MSCI Emerging Markets (Net) Index	28	2 (7%)	13 (46%)	13 (46%)	0 (0%)

Ranking vs. IM Emerging Markets Equity (MF) 20 Quarters Rolling Periods

	Periods	5-25	25-Median	Median-75	75-95
Lazard Emerging Markets Equity (LZOEX)	28	7 (25%)	8 (29%)	9 (32%)	4 (14%)
MSCI Emerging Markets (Net) Index	28	1 (4%)	18 (64%)	9 (32%)	0 (0%)



Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	46,070,443,764	70,373,005,103
Median Mkt. Cap (\$)	9,967,741,466	4,928,214,974
Price/Earnings ratio	9.1	11.1
Price/Book ratio	2.3	2.4
5 Yr. EPS Growth Rate (%)	6.7	13.5
Current Yield (%)	4.3	3.1
Beta (5 Years, Monthly)	1.01	1.00
Number of Stocks	73	1,125

Top Ten Equity Holdings

	Port. Wt	Bench. Wt	Qtr Rtrn	Contr. Rtrn
China Construction Bank Corp	5.3	1.6	-5.6	-0.3
China Mobile Ltd	4.3	1.2	-1.9	-0.1
Banco Do Brasil SA Bb Brasil	4.3	0.2	65.2	2.8
Taiwan Semiconductor	3.7	3.8	-14.4	-0.5
Sberbank of Russia OJSC	3.5	0.6	-13.6	-0.5
Netease Inc	3.1	0.4	3.3	0.1
SK Hynix Inc	2.9	0.7	-16.1	-0.5
Tata Consultancy Serv	2.6	0.5	-9.4	-0.2
Uti Bank Ltd	2.5	0.3	5.4	0.1
OTP Bank PLC	2.2	0.2	8.7	0.2

Buy and Hold Sector Attribution - 1 Qtr

	Allocation		Performance		Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark	Sector	Stock	Total
Communication Services	15.7	13.9	-5.98	-6.81	0.05	0.07	0.11
Consumer Discretionary	8.6	10.4	-3.71	-11.38	0.11	0.62	0.73
Consumer Staples	6.9	6.6	-5.17	-4.25	0.01	-0.07	-0.06
Energy	10.3	8.4	-11.20	-10.20	-0.05	-0.09	-0.14
Financials	29.8	24.1	4.11	-0.96	0.36	1.45	1.81
Health Care	0.8	2.9	7.61	-15.80	0.20	0.18	0.37
Industrials	4.7	5.5	6.34	-3.60	-0.02	0.39	0.37
Information Technology	16.5	15.2	-15.28	-14.06	-0.09	-0.22	-0.30
Materials	5.4	7.7	-11.01	-10.51	0.10	-0.04	0.06
Real Estate	0.0	2.9	0.00	1.36	-0.24	0.00	-0.24
Utilities	1.3	2.5	15.16	3.71	-0.12	0.16	0.04
Total	100.0	100.0	-4.34	-7.09	0.31	2.45	2.76

Ten Best Performers

	Port. Wt	Bench. Wt	Qtr. Rtrn	Contr. Rtrn
Banco Do Brasil SA Bb Brasil	4.3	0.2	65.2	2.8
CCR SA	1.2	0.1	42.2	0.5
Petrobras Distribuidora SA	0.4	0.0	39.1	0.2
SABESP	0.2	0.1	38.0	0.1
BB Seguridade Participacoes SA	1.8	0.1	24.2	0.4
PT Semen Gresik	1.0	0.0	19.8	0.2
PT Astra International TBK	1.4	0.2	16.7	0.2
British American Tobacco Berhad	0.7	0.0	15.3	0.1
PT Bank Mandiri (Persero) TBK	2.2	0.2	13.4	0.3
Hero MotoCrop Ltd	1.6	0.0	10.3	0.2

Buy and Hold Region Attribution- 1 Qtr

	Allocation		Performance		Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Region	Total
EM Asia	47.6	60.8	-5.94	-9.03	1.48	0.25	1.73
EM Europe	15.0	6.3	-7.09	-6.10	-0.14	0.09	-0.05
EM Latin America	13.6	11.7	15.36	0.92	1.90	0.13	2.02
EM Mid East+Africa	10.8	7.8	-4.94	-3.39	-0.17	0.11	-0.06
Europe ex UK	0.0	0.4	0.00	0.98	0.00	-0.03	-0.03
Frontier Markets	3.5	0.1	-19.38	-23.29	0.16	-0.57	-0.41
North America	0.0	0.1	0.00	-23.04	0.00	0.02	0.02
Pacific ex Japan	9.3	12.7	-11.68	-7.39	-0.47	0.05	-0.41
United Kingdom	0.0	0.1	0.00	-13.68	0.00	0.00	0.00
Other	0.2	0.1	-14.89	-0.97	-0.08	0.03	-0.05
Total	100.0	100.0	-4.34	-7.09	2.68	0.07	2.76

Ten Worst Performers

	Port. Wt	Bench. Wt	Qtr. Rtrn	Contr. Rtrn
Imperial Logistics Ltd	0.4	0.0	-61.8	-0.3
AAC Technologies Holdings Inc	0.8	0.1	-44.1	-0.4
Catcher Co Ltd	0.8	0.1	-33.3	-0.3
Baidu Inc	1.3	0.9	-30.6	-0.4
Habib Bank Ltd	0.3	0.0	-28.7	-0.1
Pakistan Petroleum Ltd	0.8	0.0	-27.7	-0.2
Grupo Mexico S.A.B. de C.V.	0.6	0.1	-27.3	-0.2
Oil & Gas Development Co Ltd	0.2	0.0	-22.8	0.0
Cielo SA	1.1	0.1	-22.4	-0.2
Cnooc Ltd	1.1	0.6	-22.0	-0.2



Manager Profile
AMG Managers Skyline Special Equities (SKSEX)

As of December 31, 2018

Fund Information

Portfolio Manager : Fiedler/Maloney/Odegard Ticker : SKSEX
 PM Tenure : 2001--2001--2001 Inception Date : 04/23/1987
 Fund Assets : \$432 Million Portfolio Turnover : 33%

Fund Investment Policy

The Fund seeks maximum capital appreciation primarily through investment in common stocks that the adviser considers under valued.

Comparative Performance - Trailing

	QTR	YTD	1 YR	3 YR	5 YR	7 YR	10 YR
AMG Managers Skyline Special Equities (SKSEX)	-20.57 (68)	-19.00 (75)	-19.00 (75)	2.12 (89)	0.81 (68)	9.46 (25)	13.52 (10)
Russell 2000 Value Index	-18.67 (35)	-12.86 (31)	-12.86 (31)	7.37 (30)	3.61 (15)	9.57 (19)	10.40 (50)
IM U.S. Small Cap Value Equity (MF) 1st Quartile	-18.00	-12.67	-12.67	7.52	3.24	9.44	12.41
IM U.S. Small Cap Value Equity (MF) Median	-20.15	-15.68	-15.68	5.53	1.79	8.42	10.32
IM U.S. Small Cap Value Equity (MF) 3rd Quartile	-21.87	-19.05	-19.05	3.74	0.42	6.20	9.57

Comparative Performance - Calendar

	2017	2016	2015	2014	2013	2012	2011
AMG Managers Skyline Special Equities (SKSEX)	8.39 (51)	21.32 (85)	-6.05 (22)	4.02 (34)	51.59 (4)	19.34 (22)	-2.05 (38)
Russell 2000 Value Index	7.84 (57)	31.74 (29)	-7.47 (47)	4.22 (32)	34.52 (54)	18.05 (28)	-5.50 (57)
IM U.S. Small Cap Value Equity (MF) 1st Quartile	12.82	32.29	-6.19	5.20	40.61	18.24	-0.99
IM U.S. Small Cap Value Equity (MF) Median	8.44	29.90	-7.59	2.69	35.16	15.36	-4.00
IM U.S. Small Cap Value Equity (MF) 3rd Quartile	5.32	22.66	-12.56	-0.61	32.85	11.52	-7.75

Comparative Performance - Quarterly

	Sep-2018	Jun-2018	Mar-2018	Dec-2017	Sep-2017	Jun-2017	Mar-2017
AMG Managers Skyline Special Equities (SKSEX)	-0.07 (61)	3.43 (95)	-1.34 (25)	0.91 (93)	5.78 (45)	1.10 (48)	0.44 (29)
Russell 2000 Value Index	1.60 (33)	8.30 (33)	-2.64 (47)	2.05 (81)	5.11 (57)	0.67 (55)	-0.13 (37)
IM U.S. Small Cap Value Equity (MF) 1st Quartile	2.22	8.61	-1.36	4.13	6.37	2.00	0.85
IM U.S. Small Cap Value Equity (MF) Median	0.87	7.91	-2.75	3.42	5.31	0.84	-0.83
IM U.S. Small Cap Value Equity (MF) 3rd Quartile	-0.70	6.03	-3.85	2.61	4.34	-0.89	-1.74

MPT Stats

	1 YR	3 YR	5 YR
Standard Deviation	17.61	16.84	15.68
Downside Risk	17.58	11.77	11.04
vs. Russell 2000 Value Index			
Alpha	-6.94	-5.03	-2.65
Beta	1.00	1.04	1.01
Down Market Capture	108.54	106.90	102.60
Information Ratio	-1.77	-1.15	-0.67
Tracking Error	4.01	4.22	3.93
Up Market Capture	71.49	84.21	90.30
vs. 90 Day U.S. Treasury Bill			
Sharpe Ratio	-1.20	0.15	0.09

Ranking vs. IM U.S. Small Cap Value Equity (MF) 4 Quarters Rolling Periods

	Periods	5-25	25-Median	Median-75	75-95
AMG Managers Skyline Special Equities (SKSEX)	28	14 (50%)	4 (14%)	5 (18%)	5 (18%)
Russell 2000 Value Index	28	3 (11%)	14 (50%)	11 (39%)	0 (0%)

Ranking vs. IM U.S. Small Cap Value Equity (MF) 12 Quarters Rolling Periods

	Periods	5-25	25-Median	Median-75	75-95
AMG Managers Skyline Special Equities (SKSEX)	28	18 (64%)	2 (7%)	5 (18%)	3 (11%)
Russell 2000 Value Index	28	1 (4%)	22 (79%)	4 (14%)	1 (4%)

Ranking vs. IM U.S. Small Cap Value Equity (MF) 20 Quarters Rolling Periods

	Periods	5-25	25-Median	Median-75	75-95
AMG Managers Skyline Special Equities (SKSEX)	28	21 (75%)	5 (18%)	2 (7%)	0 (0%)
Russell 2000 Value Index	28	4 (14%)	14 (50%)	7 (25%)	3 (11%)



Portfolio Characteristics			Top Ten Equity Holdings				
	Portfolio	Benchmark		Port. Wt	Bench. Wt	Qtr Rtrn	Contr. Rtrn
Wtd. Avg. Mkt. Cap (\$)	2,336,548,706	1,837,496,085	Aaron's Inc	2.8	0.3	-22.7	-0.6
Median Mkt. Cap (\$)	1,684,562,400	632,324,550	Essent Group Ltd	2.6	0.2	-22.8	-0.6
Price/Earnings ratio	12.7	12.7	Orion Engineered Carbons SA	2.5	0.0	-20.6	-0.5
Price/Book ratio	1.7	1.5	TriMas Corp	2.4	0.1	-10.2	-0.2
5 Yr. EPS Growth Rate (%)	12.8	8.3	Bancorpsouth Bank	2.3	0.3	-19.6	-0.5
Current Yield (%)	1.4	2.5	First Busey Corp	2.3	0.1	-20.4	-0.5
Beta (5 Years, Monthly)	1.01	1.00	Brunswick Corp	2.3	0.0	-30.4	-0.7
Number of Stocks	61	1,387	Reinsurance Group of Amer.	2.3	0.0	-2.6	-0.1
			Zebra Technologies Corp.	2.3	0.0	-10.0	-0.2
			OceanFirst Financial Corp.	2.1	0.1	-16.8	-0.4

Buy and Hold Sector Attribution - 1 Qtr								Ten Best Performers				
	Allocation		Performance		Sector	Attribution		Port. Wt	Bench. Wt	Qtr. Rtrn	Contr. Rtrn	
	Portfolio	Benchmark	Portfolio	Benchmark		Stock	Total					
Communication Services	0.0	3.1	0.00	-18.76	0.01	0.00	0.01	AMN Healthcare Services Inc.	1.5	0.0	3.6	0.1
Consumer Discretionary	11.8	9.5	-23.13	-18.95	-0.02	-0.46	-0.48	Ensign Group Inc (The)	1.4	0.0	2.4	0.0
Consumer Staples	0.0	2.6	0.00	-14.08	-0.11	0.00	-0.11	Gildan Activewear Inc	1.4	0.0	0.1	0.0
Energy	0.0	6.9	0.00	-40.88	1.68	0.00	1.68	Berry Global Group Inc	1.3	0.0	-1.8	0.0
Financials	25.3	28.7	-17.23	-15.70	-0.09	-0.37	-0.46	Reinsurance Group of Amer.	2.3	0.0	-2.6	-0.1
Health Care	7.4	4.8	-11.42	-29.58	-0.30	1.39	1.09	Benchmark Electronics Inc	1.6	0.1	-8.8	-0.1
Industrials	26.5	11.8	-24.31	-19.46	-0.13	-1.26	-1.39	Zebra Technologies Corp.	2.3	0.0	-10.0	-0.2
Information Technology	17.8	10.3	-18.63	-14.44	0.30	-0.74	-0.44	TriMas Corp	2.4	0.1	-10.2	-0.2
Materials	9.6	4.2	-28.54	-27.15	-0.48	-0.14	-0.62	Granite Construction Inc.	1.0	0.0	-11.6	-0.1
Real Estate	1.4	11.6	-28.51	-14.17	-0.43	-0.21	-0.64	Beacon Roofing Supply Inc	1.9	0.1	-12.4	-0.2
Utilities	0.0	6.4	0.00	-2.29	-0.97	0.00	-0.97					
Other	0.0	0.0	0.00	-44.63	0.00	0.00	0.00					
Total	100.0	100.0	-20.85	-18.52	-0.54	-1.79	-2.34					

Buy and Hold Style Attribution - 1 Qtr								Ten Worst Performers				
	Allocation		Performance		Style	Attribution		Port. Wt	Bench. Wt	Qtr. Rtrn	Contr. Rtrn	
	Portfolio	Benchmark	Portfolio	Benchmark		Stock	Total					
Mid Growth	3.1	0.1	-15.86	7.61	0.82	-0.82	0.00	NN Inc	0.3	0.0	-56.6	-0.2
Mid Neutral	5.3	1.8	-19.37	-9.68	0.30	-0.49	-0.19	Glatfelter (P.H.) Co	1.0	0.0	-48.6	-0.5
Mid Value	12.3	11.8	-21.35	-12.39	0.02	-1.09	-1.07	JELD-WEN Holding Inc	1.2	0.0	-42.4	-0.5
Small Growth	6.6	0.8	-18.20	-32.12	-0.83	1.00	0.17	Compass Minerals International Inc.	1.4	0.0	-37.1	-0.5
Small Neutral	16.8	9.0	-22.26	-16.32	0.13	-1.14	-1.02	Ryder System Inc	1.0	0.0	-33.5	-0.3
Small Value	55.9	73.0	-20.51	-19.25	0.12	-0.71	-0.59	Ferro Corp.	2.1	0.0	-32.5	-0.7
Unclassified	0.0	3.4	0.00	-28.98	0.36	0.00	0.36	Deluxe Corp	1.2	0.0	-32.1	-0.4
Total	100.0	100.0	-20.85	-18.52	0.92	-3.25	-2.34	Brunswick Corp	2.3	0.0	-30.4	-0.7
								NOW Inc	1.6	0.1	-29.7	-0.5
								Knoll Inc	1.7	0.0	-29.1	-0.5



Manager Profile
Hotchkis & Wiley Mid Cap Value (HWMIX)
As of December 31, 2018

Fund Information

Portfolio Manager : Majcher/Davis, Jr./Miles Ticker : HWMIX
PM Tenure : 1997--1997--1997 Inception Date : 01/02/1997
Fund Assets : \$1,142 Million Portfolio Turnover : 32%

Fund Investment Policy

The Fund seeks capital appreciation by normally investing at least 80% of its net assets plus borrowings for investment purposes in common stocks of mid capitalization U.S. companies. The Advisor currently considers mid-cap companies to be those with market capitalizations like those found in the Russell Midcap Index.

Comparative Performance - Trailing

	QTR	YTD	1 YR	3 YR	5 YR	7 YR	10 YR
Hotchkis & Wiley Mid Cap Value (HWMIX)	-25.79 (98)	-19.29 (82)	-19.29 (82)	1.72 (90)	0.65 (96)	9.85 (38)	14.01 (3)
Russell Midcap Value Index	-14.95 (28)	-12.29 (28)	-12.29 (28)	6.06 (20)	5.44 (7)	10.89 (9)	13.03 (21)
IM U.S. Mid Cap Value Equity (MF) 1st Quartile	-14.94	-11.94	-11.94	5.71	4.36	10.32	12.96
IM U.S. Mid Cap Value Equity (MF) Median	-16.88	-13.80	-13.80	4.16	3.49	9.50	12.28
IM U.S. Mid Cap Value Equity (MF) 3rd Quartile	-17.93	-17.66	-17.66	3.08	2.38	8.72	10.81

Comparative Performance - Calendar

	2017	2016	2015	2014	2013	2012	2011
Hotchkis & Wiley Mid Cap Value (HWMIX)	7.78 (88)	21.00 (24)	-12.53 (97)	12.18 (25)	42.55 (5)	31.09 (1)	-8.60 (96)
Russell Midcap Value Index	13.34 (47)	20.00 (34)	-4.78 (52)	14.75 (11)	33.46 (74)	18.51 (23)	-1.38 (34)
IM U.S. Mid Cap Value Equity (MF) 1st Quartile	15.63	20.84	-3.31	12.18	37.65	18.37	-0.66
IM U.S. Mid Cap Value Equity (MF) Median	12.67	17.39	-4.58	10.30	35.97	16.57	-3.16
IM U.S. Mid Cap Value Equity (MF) 3rd Quartile	10.68	15.42	-6.91	7.99	33.11	14.99	-6.38

Comparative Performance - Quarterly

	Sep-2018	Jun-2018	Mar-2018	Dec-2017	Sep-2017	Jun-2017	Mar-2017
Hotchkis & Wiley Mid Cap Value (HWMIX)	3.00 (43)	7.80 (1)	-2.05 (53)	4.58 (71)	3.53 (25)	-1.33 (95)	0.88 (96)
Russell Midcap Value Index	3.30 (27)	2.41 (36)	-2.50 (69)	5.50 (42)	2.14 (65)	1.37 (52)	3.76 (38)
IM U.S. Mid Cap Value Equity (MF) 1st Quartile	3.39	3.17	-1.36	6.12	3.53	1.98	4.36
IM U.S. Mid Cap Value Equity (MF) Median	2.87	1.97	-1.98	5.11	2.68	1.37	3.28
IM U.S. Mid Cap Value Equity (MF) 3rd Quartile	1.65	0.82	-2.97	4.49	1.73	0.28	2.55

MPT Stats

	1 YR	3 YR	5 YR
Standard Deviation	19.97	19.01	16.89
Downside Risk	19.54	13.40	11.93
vs. Russell Midcap Value Index			
Alpha	-3.26	-5.84	-5.76
Beta	1.32	1.44	1.34
Down Market Capture	135.54	141.42	142.92
Information Ratio	-0.81	-0.32	-0.46
Tracking Error	8.76	9.63	8.34
Up Market Capture	110.75	109.24	106.89
vs. 90 Day U.S. Treasury Bill			
Sharpe Ratio	-1.05	0.13	0.09

Ranking vs. IM U.S. Mid Cap Value Equity (MF) 4 Quarters Rolling Periods

	Periods	5-25	25-Median	Median-75	75-95
Hotchkis & Wiley Mid Cap Value (HWMIX)	28	16 (57%)	1 (4%)	1 (4%)	10 (36%)
Russell Midcap Value Index	28	7 (25%)	13 (46%)	8 (29%)	0 (0%)

Ranking vs. IM U.S. Mid Cap Value Equity (MF) 12 Quarters Rolling Periods

	Periods	5-25	25-Median	Median-75	75-95
Hotchkis & Wiley Mid Cap Value (HWMIX)	28	14 (50%)	2 (7%)	2 (7%)	10 (36%)
Russell Midcap Value Index	28	16 (57%)	12 (43%)	0 (0%)	0 (0%)

Ranking vs. IM U.S. Mid Cap Value Equity (MF) 20 Quarters Rolling Periods

	Periods	5-25	25-Median	Median-75	75-95
Hotchkis & Wiley Mid Cap Value (HWMIX)	28	15 (54%)	6 (21%)	2 (7%)	5 (18%)
Russell Midcap Value Index	28	18 (64%)	8 (29%)	2 (7%)	0 (0%)



Portfolio Characteristics			Top Ten Equity Holdings				
	Portfolio	Benchmark		Port. Wt	Bench. Wt	Qtr Rtrn	Contr. Rtrn
Wtd. Avg. Mkt. Cap (\$)	6,885,644,980	12,942,025,333	ARRIS International plc	5.0	0.1	17.6	0.9
Median Mkt. Cap (\$)	4,315,387,306	6,467,067,825	Popular Inc	4.8	0.1	-7.4	-0.4
Price/Earnings ratio	10.6	13.5	Hewlett Packard Enterprise Co	4.7	0.0	-18.4	-0.9
Price/Book ratio	1.7	1.9	Whiting Petroleum Corp	4.4	0.1	-57.2	-2.5
5 Yr. EPS Growth Rate (%)	4.3	11.8	Goodyear Tire & Rubber Co	3.3	0.1	-12.1	-0.4
Current Yield (%)	2.1	2.7	TRI Pointe Group Inc	3.1	0.0	-11.9	-0.4
Beta (5 Years, Monthly)	1.34	1.00	Citizens Financial Group Inc	3.0	0.4	-22.3	-0.7
Number of Stocks	60	592	CIT Group Inc	3.0	0.1	-25.5	-0.8
			Discovery Inc	3.0	0.2	-22.0	-0.7
			Avnet Inc	2.8	0.1	-19.0	-0.5

Buy and Hold Sector Attribution - 1 Qtr								Ten Best Performers				
	Allocation		Performance		Sector	Attribution		Port. Wt	Bench. Wt	Qtr. Rtrn	Contr. Rtrn	
	Portfolio	Benchmark	Portfolio	Benchmark		Stock	Total					
Communication Services	5.5	3.3	-19.09	-17.19	-0.05	-0.09	-0.14	ARRIS International plc	5.0	0.1	17.6	0.9
Consumer Discretionary	12.0	8.9	-20.05	-17.72	-0.07	-0.29	-0.36	Embraer SA	2.4	0.0	13.0	0.3
Consumer Staples	1.6	5.1	-21.56	-10.24	-0.15	-0.18	-0.33	NRG Energy Inc	2.6	0.3	6.0	0.2
Energy	22.4	7.0	-51.20	-34.72	-3.15	-4.73	-7.88	Teradata Corp	0.6	0.0	1.7	0.0
Financials	22.5	17.7	-18.57	-15.94	-0.05	-0.57	-0.62	Telefonaktiebolaget LM Ericsson	0.9	0.0	0.8	0.0
Health Care	2.3	6.8	-38.70	-16.08	0.05	-0.52	-0.46	PPL Corp	0.7	0.5	-1.9	0.0
Industrials	12.5	12.2	-20.47	-17.81	0.10	-0.43	-0.34	Alleghany Corp	0.7	0.2	-4.5	0.0
Information Technology	15.2	8.8	-5.70	-17.45	-0.16	1.66	1.50	Popular Inc	4.8	0.1	-7.4	-0.4
Materials	0.0	6.1	0.00	-15.79	0.05	0.00	0.05	Cummins Inc.	1.7	0.3	-7.8	-0.1
Real Estate	2.9	13.3	-20.42	-6.19	-0.84	-0.39	-1.23	Amerco	2.0	0.1	-7.9	-0.2
Utilities	3.1	10.7	4.34	-1.41	-0.95	0.14	-0.81					
Total	100.0	100.0	-25.54	-14.93	-5.21	-5.40	-10.61					

Buy and Hold Style Attribution - 1 Qtr								Ten Worst Performers				
	Allocation		Performance		Style	Attribution		Port. Wt	Bench. Wt	Qtr. Rtrn	Contr. Rtrn	
	Portfolio	Benchmark	Portfolio	Benchmark		Stock	Total					
Large Growth	0.0	0.1	0.00	-23.15	0.01	0.00	0.01	Sanchez Energy Corp	0.0	0.0	-88.3	0.0
Large Neutral	0.5	2.0	-3.12	-7.80	-0.09	-0.11	-0.20	Weatherford Intl	0.7	0.0	-79.4	-0.5
Large Value	0.0	2.8	0.00	-14.45	-0.02	0.00	-0.02	Superior Energy Services Inc.	1.1	0.0	-65.6	-0.7
Mid Growth	1.6	2.1	-13.33	-13.97	0.00	0.01	0.01	McDermott International Inc.	1.0	0.0	-64.5	-0.6
Mid Neutral	3.7	31.1	-3.23	-13.94	-0.27	0.37	0.11	Adient Plc	0.9	0.0	-61.4	-0.5
Mid Value	55.0	55.8	-17.83	-15.48	0.01	-1.29	-1.28	Whiting Petroleum Corp	4.4	0.1	-57.2	-2.5
Small Growth	0.5	0.0	-8.87	-4.66	0.03	-0.06	-0.03	Kosmos Energy Ltd	2.6	0.0	-56.5	-1.5
Small Neutral	5.8	0.7	-43.53	-25.51	-0.54	-1.19	-1.73	CommScope Holding Co Inc	1.1	0.1	-46.7	-0.5
Small Value	25.9	2.7	-35.07	-18.31	-0.80	-4.64	-5.44	Mallinckrodt Plc	1.2	0.0	-46.1	-0.5
Unclassified	7.0	2.6	-38.98	-12.65	0.11	-2.16	-2.05	Apache Corp	1.2	0.3	-44.6	-0.6
Total	100.0	100.0	-25.54	-14.93	-1.55	-9.06	-10.61					



Historical Activity

Jul-2017

The Hartford Small Company Fund (HIASX) was replaced by Wells Fargo Small Company Growth Fund (WSCRX).

Nov-2016

The Hartford Capital Appreciation Fund (HIACX) was replaced by the Wells Fargo Disciplined US Core Fund (EVSIX).

The Deutsche Real Assets Fund (AAAVX) was removed from the Plans. The remaining balances were mapped into the American Funds American Balanced Fund (RLBGX).

The Plan added WCAB Models 2015, 2025, 2035, 2045, 2055, and 2060. The 2010 Model was replaced by the Income Model.

Dec-2015

The Plan was converted to the Mass Mutual platform. The following funds were changed:

The SSGA Index Fund were replaced by Vanguard Index Funds.
The Hartford Balanced was replaced by American Funds Balanced.
American Century Equity Income shares changed from ACIX to AEUDX.
Deutsche Alternative Asset Allocation shares changed from AAAAX to AAAVX.

Sep-2014

Lord Abbett Mid Cap Value closes 9/3/14. Assets will map to the Hotchkis & Wiley Mid Cap Value Fund on September 5, 2014.

Oct-2013

Pimco Foreign Bond (US Hedged) (PFORZ) was added to the fund lineup.

Apr-2011

The LifePath Funds were removed from the fund line-up.

Mar-2011

The Barclays LifePath Target Date Funds will be mapped to the Hartford Advisors HLS Fund.

Oct-2010

The following funds were moved to new share classes as follows:

American Funds EuroPacific Growth to R6 shares
SSgA Russell Small Cap to A shares
Lord Abbett Mid Cap Value to I shares
SSgA S&P Mid Cap Index to A shares
American Funds Growth Fund of America to R6 shares
SSgA S&P 500 Index to A shares
Pimco High Yield to Institutional shares.

Dec-2009

The LifePath 2010 fund was wrapped in with the Life Path Retirement Fund.



Sep-2009

Barclays merged with BlackRock. The LifePath funds took the BlackRock name.

Feb-2009

The Following new investment choices were added to the Plans:

American Century Capital, DFA Intl. Small Cap Value, DWS Alternative Asset Allocation, Lazard Emerging Markets, Lord Abbett Mid Cap Value.

Sep-2007

The Hartford Index HLS was replaced by the SSgA S&P 500 Flagship fund in the third quarter 2007. The TCW Opportunity Fund was renamed to the TCW Relative Value Small Cap Fund.

Jun-2007

The American Century Ultra Fund was removed from the fund lineup during the second quarter 2007.

Mar-2005

Changes to the fund lineup started on March 1, 2005 and concluded on March 31, 2005. Below is a list of the funds that were retained and a list of funds that were added to the lineup.

Retained Funds:

Hartford Small Company HLS
Skyline Special Equities Portfolio, Hartford Mid-Cap HLS
American Century Ultra, Hartford Capital Appreciation
Hartford Index HLS
American Century Equity Income
Hartford Advisors HLS
Hartford Total Return Bond HLS
General "Declared Interest"

Introduced Funds:

American Funds EuroPacific
TCW Opportunity
Artisan Mid-Cap
Hotchkis & Wiley Mid-Cap Value
American Funds Growth Fund
PIMCO High Yield
General Account (Declared)
Barclays Global Investors LifePath.



Common Index Definitions

The S&P 500® Index is a broad based unmanaged index of 500 stocks, which is widely recognized as representative of the equity market in general.

The Russell 1000® Index measures the performance of those 1,000 largest companies in the Russell 3000® Index, which represents approximately 92% of the total market capitalization of the Russell 3000® Index.

The Russell 1000® Value Index measures the performance of those Russell 1000® Index companies with lower price-to-book ratios and lower forecasted growth values.

The Russell 1000® Growth Index measures the performance of those Russell 1000® Index companies with higher price-to-book ratios and higher forecasted growth values.

The Russell 2000® Index, an unmanaged index, measures the performance of the 2,000 smallest companies in the Russell 3000® Index.

The Russell 2000® Value Index measures the performance of those Russell 2000® Index companies with lower price-to-book ratios and lower forecasted growth values.

The Russell 2000® Growth Index measures the performance of those Russell 2000® Index companies higher price-to-book ratios and higher forecasted growth values.

The Russell 3000® Index includes the 3,000 largest U.S.-traded stocks.

The Russell 3000® Value Index includes stocks from the Russell 3000® Index with lower price-to-book ratios and lower expected growth rates.

The Russell 3000® Growth Index includes companies that display signs of above average growth. The index is used to provide a gauge of the performance of growth stocks in the U.S.

The Russell Midcap® Index, an unmanaged index, measures the performance of the 800 smallest companies in the Russell 1000® Index.

The Russell Midcap® Value Index measures the performance of those Russell Midcap® Index companies with lower price-to book value ratios and lower forecasted growth values.

The Russell Midcap® Growth Index measures the performance of those Russell Midcap® Index companies with higher price-to book ratios and higher forecasted growth values.

The Russell Developed® Index measures the performance of the investable securities in developed countries globally across all market capitalization ranges.

The Bloomberg Barclays Intermediate Treasury Index includes Treasuries with maturities between 1 and 10 years.

The Bloomberg Barclays Aggregate Bond Index, is a market capitalization-weighted intermediate term index, meaning the securities in the index are weighted according to the market size of each bond type. Most U.S. traded investment grade bonds are represented. Municipal bonds, and Treasury Inflation-Protected Securities are excluded, due to tax treatment issues. The index includes Treasury securities, Government agency bonds, Mortgage-backed bonds, Corporate bonds, and a small amount of foreign bonds traded in U.S. The Bloomberg Barclays US Aggregate Bond Index is an index.

The BofA Merrill Lynch U.S. High Yield Index tracks the performance of below investment grade, but not in default, US dollardenominated corporate bonds publicly issued in the US domestic market, and includes issues with a credit rating of BBB or below, as rated by Moody's and S&P.



Active Return	- Arithmetic difference between the manager's performance and the designated benchmark return over a specified time period.
Alpha	- A measure of the difference between a portfolio's actual performance and its expected return based on its level of risk as determined by beta. It determines the portfolio's non-systemic return, or its historical performance not explained by movements of the market.
Beta	- A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of the portfolio's systematic risk.
Consistency	- The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. Higher consistency indicates the manager has contributed more to the product's performance.
Distributed to Paid In (DPI)	- The ratio of money distributed to Limited Partners by the fund, relative to contributions. It is calculated by dividing cumulative distributions by paid in capital. This multiple shows the investor how much money they got back. It is a good measure for evaluating a fund later in its life because there are more distributions to measure against.
Down Market Capture	- The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance
Downside Risk	- A measure similar to standard deviation that utilizes only the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. A higher factor is indicative of a riskier product.
Excess Return	- Arithmetic difference between the manager's performance and the risk-free return over a specified time period.
Excess Risk	- A measure of the standard deviation of a portfolio's performance relative to the risk free return.
Information Ratio	- This calculates the value-added contribution of the manager and is derived by dividing the active rate of return of the portfolio by the tracking error. The higher the Information Ratio, the more the manager has added value to the portfolio.
Public Market Equivalent (PME)	- Designs a set of analyses used in the Private Equity Industry to evaluate the performance of a Private Equity Fund against a public benchmark or index.
R-Squared	- The percentage of a portfolio's performance that can be explained by the behavior of the appropriate benchmark. A high R-Squared means the portfolio's performance has historically moved in the same direction as the appropriate benchmark.
Return	- Compounded rate of return for the period.
Sharpe Ratio	- Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is an absolute rate of return per unit of risk. A higher value demonstrates better historical risk-adjusted performance.
Standard Deviation	- A statistical measure of the range of a portfolio's performance. It represents the variability of returns around the average return over a specified time period.
Total Value to Paid In (TVPI)	- The ratio of the current value of remaining investments within a fund, plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date. It is a good measure of performance before the end of a fund's life
Tracking Error	- This is a measure of the standard deviation of a portfolio's returns in relation to the performance of its designated market benchmark.
Treynor Ratio	- Similar to Sharpe ratio but utilizes beta rather than excess risk as determined by standard deviation. It is calculated by taking the excess rate of return above the risk free rate divided by beta to derive the absolute rate of return per unit of risk. A higher value indicates a product has achieved better historical risk-adjusted performance.
Up Market Capture	- The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.



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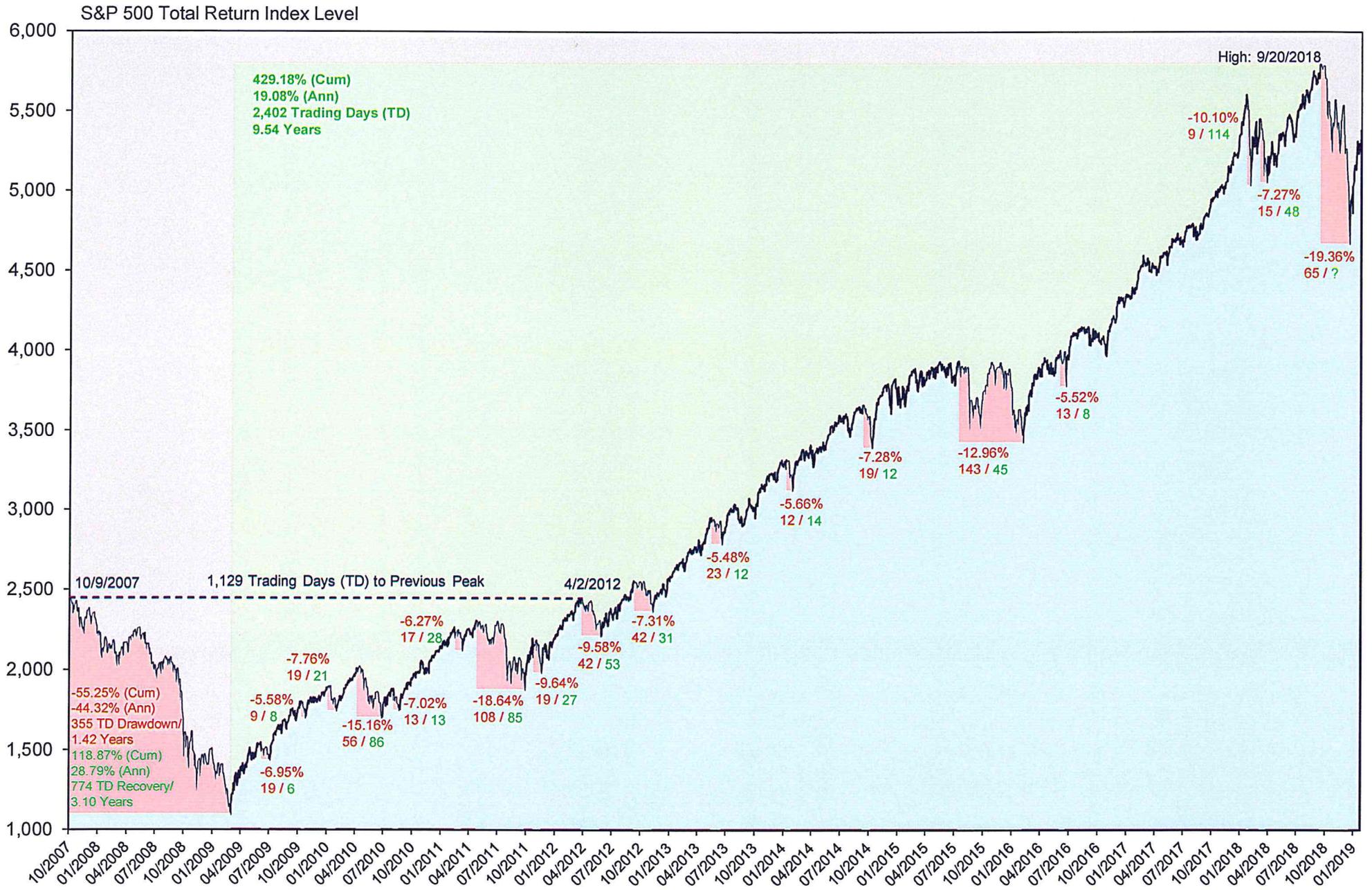
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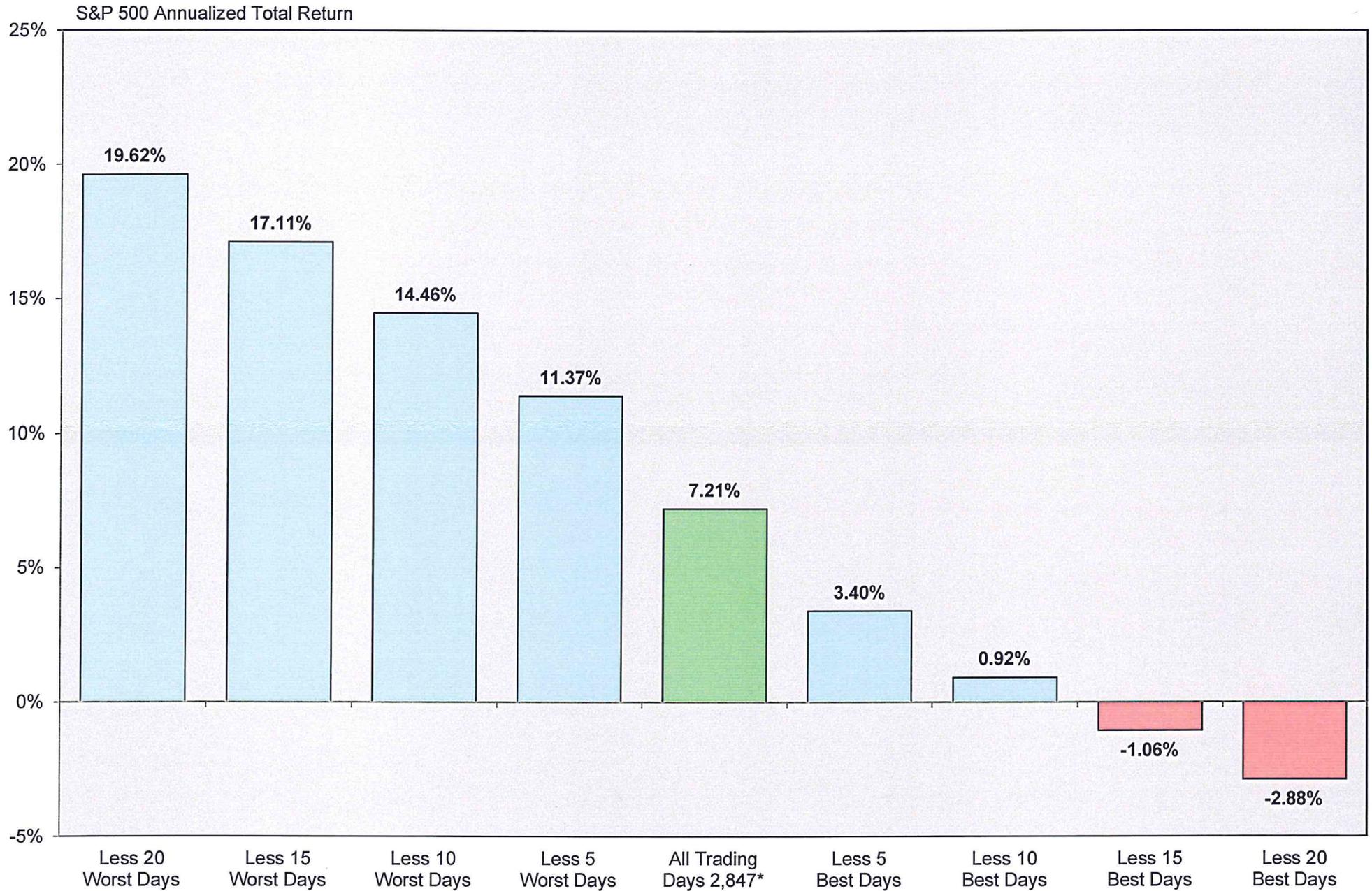
S&P 500 Total Return Index History
Drawdowns of Greater Than 5% Since Index Pre-Crisis Peak
 10/9/2007 – 1/31/2019



Source: AndCo Consulting, using data and information derived from Bloomberg.



S&P 500 Total Return Index History
S&P 500 Annualized Total Return Performance Over 2,847 Trading Days (11.32 Years)
 10/9/2007 – 1/31/2019



Source: AndCo Consulting, using data and information derived from Bloomberg.

*Excludes holidays, weekends and other non-trading days



S&P 500 Total Return Index History
Trading Day Drawdowns of Greater Than 5% (Mutually-Exclusive)
1/1/1990 – 1/31/2019

Drawdown Start	Drawdown Trading Days	Cumulative Drawdown Return	Drawdown Conclusion	Recovery Trading Days	Drawdown / Recovery Trading Days Ratio
1/3/1990	20	-10.04%	5/21/1990	77	3.9
7/17/1990	62	-19.18%	2/11/1991	84	1.4
4/18/1991	20	-5.29%	5/31/1991	11	0.6
11/14/1991	11	-5.46%	12/23/1991	16	1.5
1/16/1992	59	-5.58%	5/11/1992	22	0.4
9/15/1992	19	-5.14%	11/19/1992	29	1.5
2/3/1994	41	-8.47%	8/29/1994	102	2.5
8/31/1994	70	-5.69%	2/2/1995	38	0.5
6/6/1996	34	-7.41%	9/13/1996	36	1.1
2/19/1997	37	-9.38%	5/5/1997	16	0.4
8/7/1997	17	-6.21%	10/2/1997	23	1.4
10/8/1997	14	-10.75%	12/5/1997	28	2
12/8/1997	23	-5.56%	1/29/1998	13	0.6
7/20/1998	31	-19.19%	11/23/1998	59	1.9
4/13/1999	5	-5.08%	4/22/1999	3	0.6
5/14/1999	10	-6.25%	6/30/1999	23	2.3
7/19/1999	64	-11.80%	11/16/1999	22	0.3
1/3/2000	38	-9.09%	3/21/2000	17	0.4
3/27/2000	15	-11.14%	9/1/2000	97	6.5
9/5/2000	529	-47.41%	10/23/2006	1,017	1.9
2/21/2007	9	-5.77%	4/16/2007	29	3.2
7/20/2007	19	-9.27%	10/5/2007	36	1.9
10/10/2007	355	-55.25%	4/2/2012	774	2.2
4/3/2012	42	-9.58%	8/6/2012	53	1.3
9/17/2012	42	-7.31%	1/2/2013	31	0.7
5/22/2013	23	-5.58%	7/11/2013	12	0.5
1/6/2014	12	-5.72%	2/24/2014	14	1.2
9/19/2014	19	-7.28%	10/31/2014	12	0.6
7/21/2015	143	-12.96%	4/18/2016	45	0.3
6/9/2016	13	-5.52%	7/8/2016	8	0.6
1/26/2018	9	-10.10%	7/25/2018	114	12.7
9/21/2018	65	-19.36%	?	?	?
Average (ex current)	60	-11.24%	-	92	1.8



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Annual Asset Class Performance

Market Indexes

As of December 31, 2018

Annual Asset Class Performance															
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Best ↑ Performance ↓ Worst	MSCI Emerging Markets (Net) Index 25.6%	MSCI Emerging Markets (Net) Index 34.0%	MSCI Emerging Markets (Net) Index 32.2%	MSCI Emerging Markets (Net) Index 39.4%	Bimbg. Barc. U.S. Aggregate Index 5.2%	MSCI Emerging Markets (Net) Index 78.5%	Russell 2000 Growth Index 29.1%	NCREIF Fund Index-ODCE (EW) (Net) 15.0%	MSCI Emerging Markets (Net) Index 18.2%	Russell 2000 Growth Index 43.3%	S&P 500 Index 13.7%	NCREIF Fund Index-ODCE (EW) (Net) 14.2%	Russell 2000 Value Index 31.7%	MSCI Emerging Markets (Net) Index 37.3%	NCREIF Fund Index-ODCE (EW) (Net) 7.3%
	Russell 2000 Value Index 22.2%	NCREIF Fund Index-ODCE (EW) (Net) 19.0%	MSCI EAFE (Net) Index 26.3%	NCREIF Fund Index-ODCE (EW) (Net) 15.0%	Bloomberg Barclays Global Aggregate Ex USD 4.4%	Bimbg. Barc. U.S. Corp High Yield 58.2%	Russell 2000 Index 26.9%	Bimbg. Barc. U.S. Aggregate Index 7.8%	Russell 2000 Value Index 18.1%	Russell 2000 Index 38.8%	Russell 1000 Value Index 13.5%	Russell 1000 Growth Index 5.7%	Russell 2000 Index 21.3%	Russell 1000 Growth Index 30.2%	Bimbg. Barc. U.S. Aggregate Index 0.0%
	MSCI EAFE (Net) Index 20.2%	MSCI EAFE (Net) Index 13.5%	Russell 2000 Value Index 23.5%	Russell 1000 Growth Index 11.8%	NCREIF Fund Index-ODCE (EW) (Net) -11.1%	Russell 1000 Growth Index 37.2%	Russell 2000 Value Index 24.5%	Bimbg. Barc. U.S. Corp High Yield 5.0%	Russell 1000 Value Index 17.5%	Russell 2000 Value Index 34.5%	Russell 1000 Growth Index 13.1%	S&P 500 Index 1.4%	Russell 1000 Value Index 17.3%	MSCI EAFE (Net) Index 25.0%	Russell 1000 Growth Index -1.5%
	Russell 2000 Index 18.3%	Russell 1000 Value Index 7.1%	Russell 1000 Value Index 22.2%	MSCI EAFE (Net) Index 11.2%	Bimbg. Barc. U.S. Corp High Yield -26.2%	Russell 2000 Growth Index 34.5%	MSCI Emerging Markets (Net) Index 18.9%	Bloomberg Barclays Global Aggregate Ex USD 4.4%	MSCI EAFE (Net) Index 17.3%	Russell 1000 Growth Index 33.5%	NCREIF Fund Index-ODCE (EW) (Net) 11.4%	Bimbg. Barc. U.S. Aggregate Index 0.5%	Bimbg. Barc. U.S. Corp High Yield 17.1%	Russell 2000 Growth Index 22.2%	Bimbg. Barc. U.S. Corp High Yield -2.1%
	Russell 1000 Value Index 16.5%	Russell 1000 Growth Index 5.3%	Russell 2000 Index 18.4%	Bloomberg Barclays Global Aggregate Ex USD 11.0%	Russell 2000 Value Index -28.9%	MSCI EAFE (Net) Index 31.8%	Russell 1000 Growth Index 16.7%	Russell 1000 Growth Index 2.6%	Russell 2000 Index 16.3%	Russell 1000 Value Index 32.5%	Bimbg. Barc. U.S. Aggregate Index 6.0%	MSCI EAFE (Net) Index -0.8%	S&P 500 Index 12.0%	S&P 500 Index 21.8%	Bloomberg Barclays Global Aggregate Ex USD -2.1%
	Russell 2000 Growth Index 14.3%	S&P 500 Index 4.9%	S&P 500 Index 15.8%	Russell 2000 Growth Index 7.0%	Russell 2000 Index -33.8%	Russell 2000 Index 27.2%	Russell 1000 Value Index 15.5%	S&P 500 Index 2.1%	S&P 500 Index 16.0%	S&P 500 Index 32.4%	Russell 2000 Growth Index 5.6%	Russell 2000 Growth Index -1.4%	Russell 2000 Growth Index 11.3%	Russell 2000 Index 14.6%	S&P 500 Index -4.4%
	Bloomberg Barclays Global Aggregate Ex USD 12.5%	Russell 2000 Value Index 4.7%	NCREIF Fund Index-ODCE (EW) (Net) 15.1%	Bimbg. Barc. U.S. Aggregate Index 7.0%	Russell 1000 Value Index -36.8%	S&P 500 Index 26.5%	Bimbg. Barc. U.S. Corp High Yield 15.1%	Russell 1000 Value Index 0.4%	Bimbg. Barc. U.S. Corp High Yield 15.8%	MSCI EAFE (Net) Index 22.8%	Russell 2000 Index 4.9%	Russell 1000 Value Index -3.8%	MSCI Emerging Markets (Net) Index 11.2%	Russell 1000 Value Index 13.7%	Russell 1000 Value Index -8.3%
	NCREIF Fund Index-ODCE (EW) (Net) 11.5%	Russell 2000 Index 4.6%	Russell 2000 Growth Index 13.3%	S&P 500 Index 5.5%	S&P 500 Index -37.0%	Russell 2000 Value Index 20.6%	NCREIF Fund Index-ODCE (EW) (Net) 15.1%	Russell 2000 Growth Index -2.9%	Russell 1000 Growth Index 15.3%	NCREIF Fund Index-ODCE (EW) (Net) 12.4%	Russell 2000 Value Index 4.2%	Russell 2000 Index -4.4%	NCREIF Fund Index-ODCE (EW) (Net) 8.4%	Bloomberg Barclays Global Aggregate Ex USD 10.5%	Russell 2000 Growth Index -9.3%
	Bimbg. Barc. U.S. Corp High Yield 11.1%	Russell 2000 Growth Index 4.2%	Bimbg. Barc. U.S. Corp High Yield 11.9%	Bimbg. Barc. U.S. Corp High Yield 1.9%	Russell 1000 Growth Index -38.4%	Russell 1000 Value Index 19.7%	S&P 500 Index 15.1%	Russell 2000 Index -4.2%	Russell 2000 Growth Index 14.6%	Bimbg. Barc. U.S. Corp High Yield 7.4%	Bimbg. Barc. U.S. Corp High Yield 2.5%	Bimbg. Barc. U.S. Corp High Yield -4.5%	Russell 1000 Growth Index 7.1%	Russell 2000 Value Index 7.8%	Russell 2000 Index -11.0%
	S&P 500 Index 10.9%	Bimbg. Barc. U.S. Corp High Yield 2.7%	Russell 1000 Growth Index 9.1%	Russell 1000 Value Index -0.2%	Russell 2000 Growth Index -38.5%	Bloomberg Barclays Global Aggregate Ex USD 7.5%	MSCI EAFE (Net) Index 7.8%	Russell 2000 Value Index -5.5%	NCREIF Fund Index-ODCE (EW) (Net) 9.9%	Bimbg. Barc. U.S. Aggregate Index -2.0%	MSCI Emerging Markets (Net) Index -2.2%	Bloomberg Barclays Global Aggregate Ex USD -6.0%	Bimbg. Barc. U.S. Aggregate Index 2.6%	Bimbg. Barc. U.S. Corp High Yield 7.5%	Russell 2000 Value Index -12.9%
	Russell 1000 Growth Index 6.3%	Bimbg. Barc. U.S. Aggregate Index 2.4%	Bloomberg Barclays Global Aggregate Ex USD 8.2%	Russell 2000 Index -1.6%	MSCI EAFE (Net) Index -43.4%	Bimbg. Barc. U.S. Aggregate Index 5.9%	Bimbg. Barc. U.S. Aggregate Index 6.5%	MSCI EAFE (Net) Index -12.1%	Bimbg. Barc. U.S. Aggregate Index 4.2%	MSCI Emerging Markets (Net) Index -2.6%	Bloomberg Barclays Global Aggregate Ex USD -3.1%	Russell 2000 Value Index -7.5%	Bloomberg Barclays Global Aggregate Ex USD 1.5%	NCREIF Fund Index-ODCE (EW) (Net) 6.9%	MSCI EAFE (Net) Index -13.8%
	Bimbg. Barc. U.S. Aggregate Index 4.3%	Bloomberg Barclays Global Aggregate Ex USD -8.7%	Bimbg. Barc. U.S. Aggregate Index 4.3%	Russell 2000 Value Index -9.8%	MSCI Emerging Markets (Net) Index -53.3%	NCREIF Fund Index-ODCE (EW) (Net) -31.3%	Bloomberg Barclays Global Aggregate Ex USD 4.9%	MSCI Emerging Markets (Net) Index -18.4%	Bloomberg Barclays Global Aggregate Ex USD 4.1%	Bloomberg Barclays Global Aggregate Ex USD -3.1%	MSCI EAFE (Net) Index -4.9%	MSCI Emerging Markets (Net) Index -14.9%	MSCI EAFE (Net) Index 1.0%	Bimbg. Barc. U.S. Aggregate Index 3.5%	MSCI Emerging Markets (Net) Index -14.6%

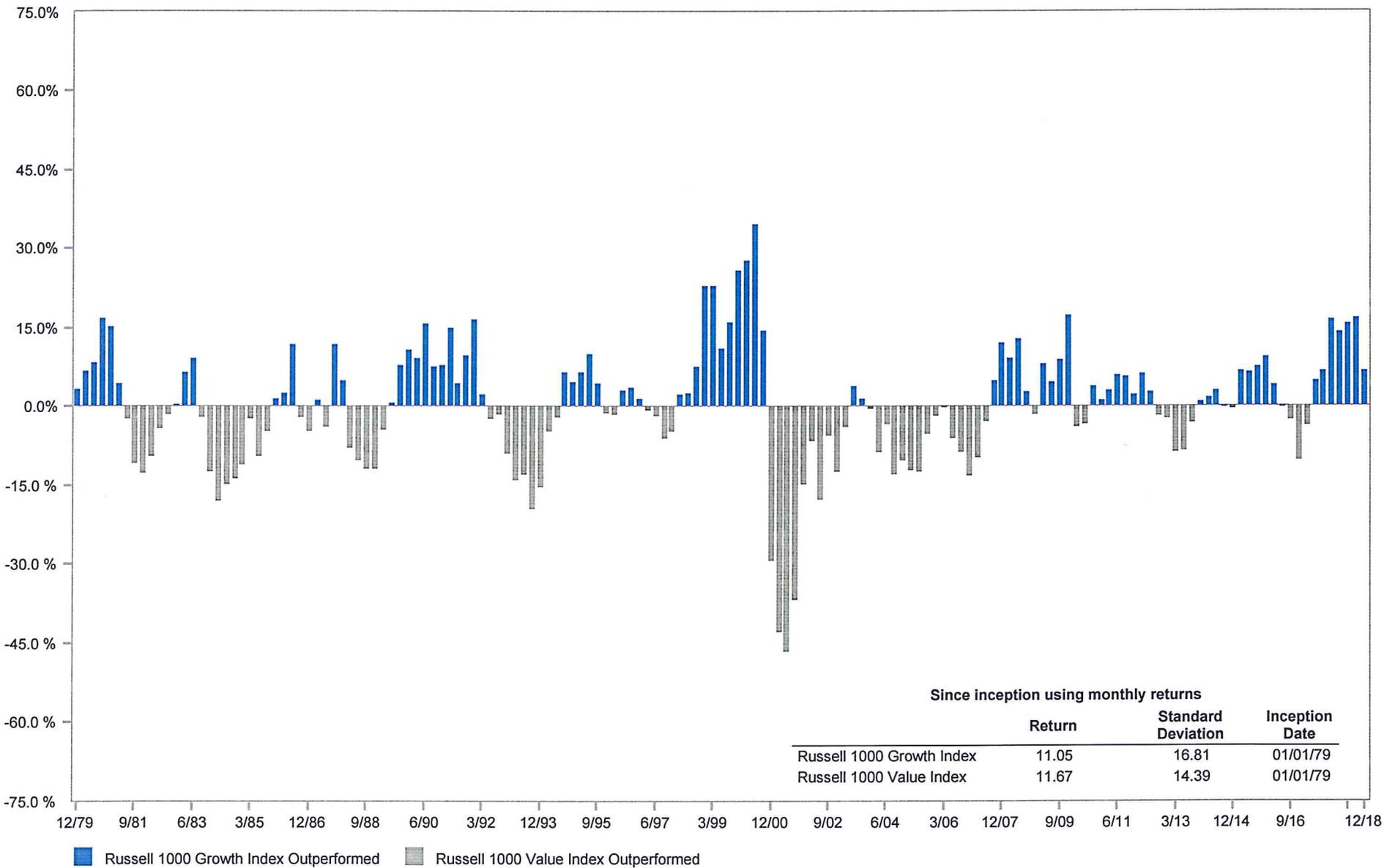
Source: Investment Metrics

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Rolling Excess Performance
Russell 1000 Growth Index and Russell 1000 Value Index
12 Months Rolling Periods From July 1, 1979 To December 31, 2018

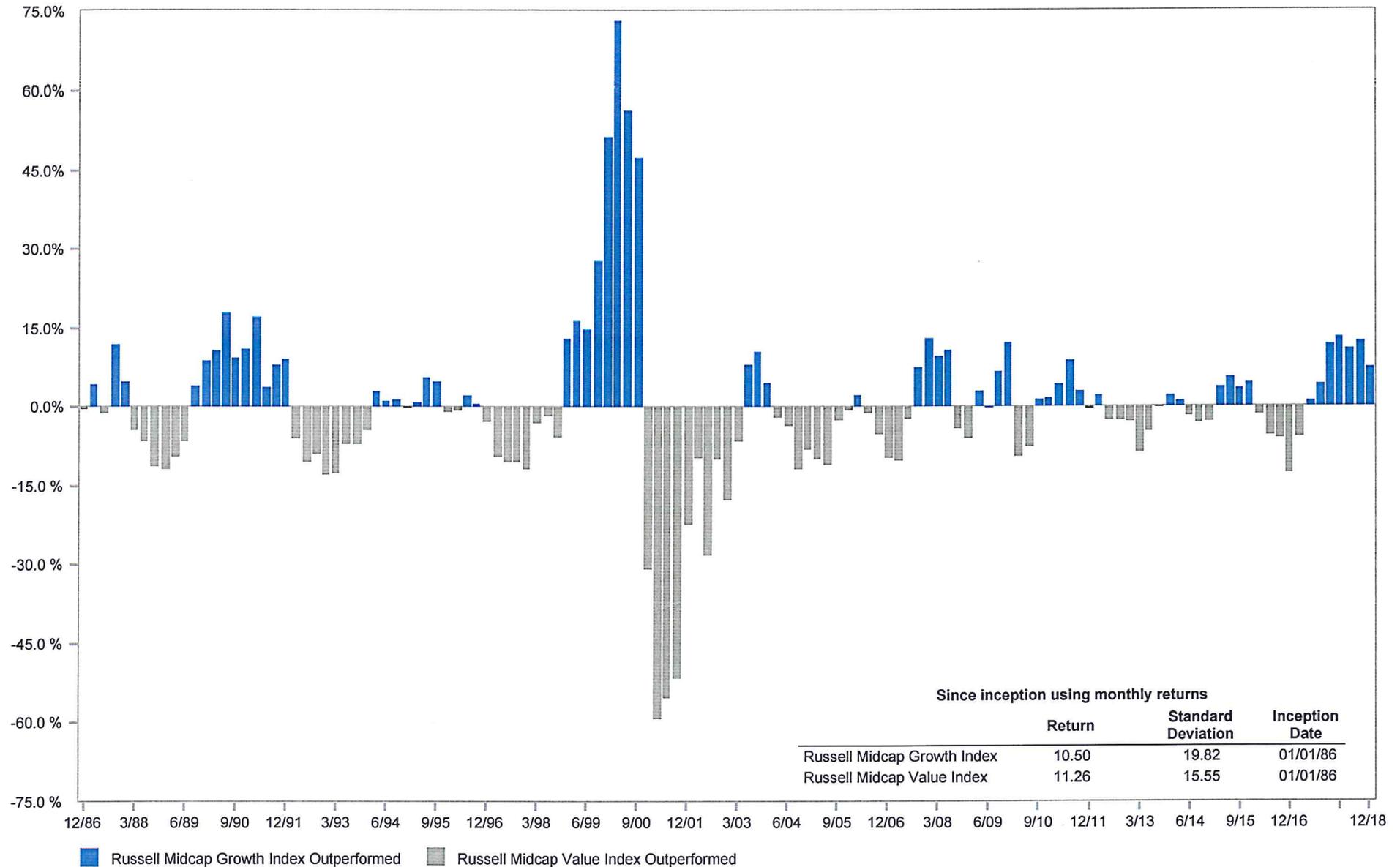
Rolling Excess Performance



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Rolling Excess Performance
Russell Midcap Growth Index and Russell Midcap Value Index
 12 Months Rolling Periods From July 1, 1986 To December 31, 2018

Rolling Excess Performance



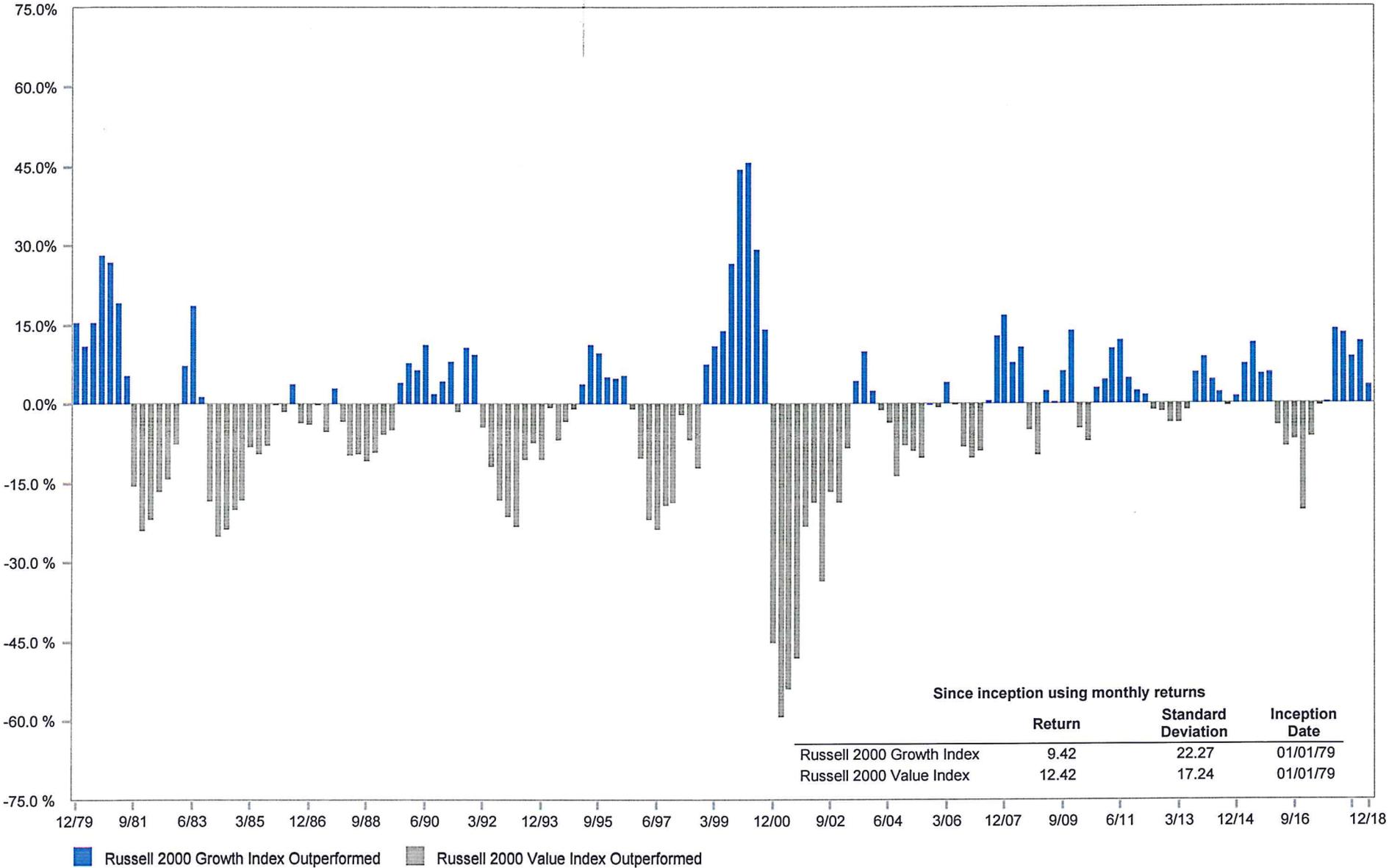
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Rolling Excess Performance
Russell 2000 Growth Index and Russell 2000 Value Index
 12 Months Rolling Periods From July 1, 1979 To December 31, 2018

Rolling Excess Performance

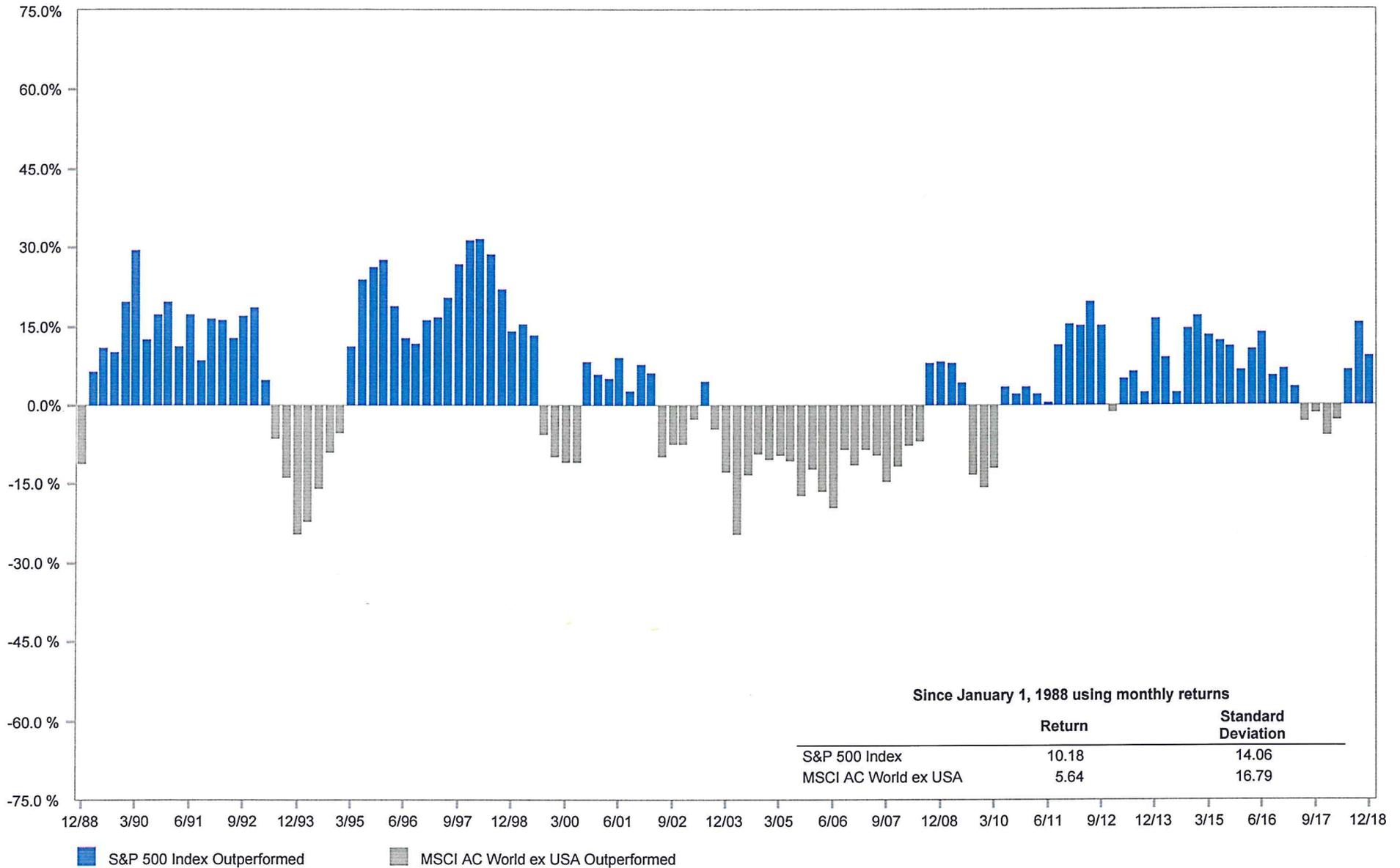


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Rolling Excess Performance
S&P 500 Index and MSCI ACWxUSA Index
 12 Months Rolling Periods From January 1, 1988 To December 31, 2018

Rolling Excess Performance



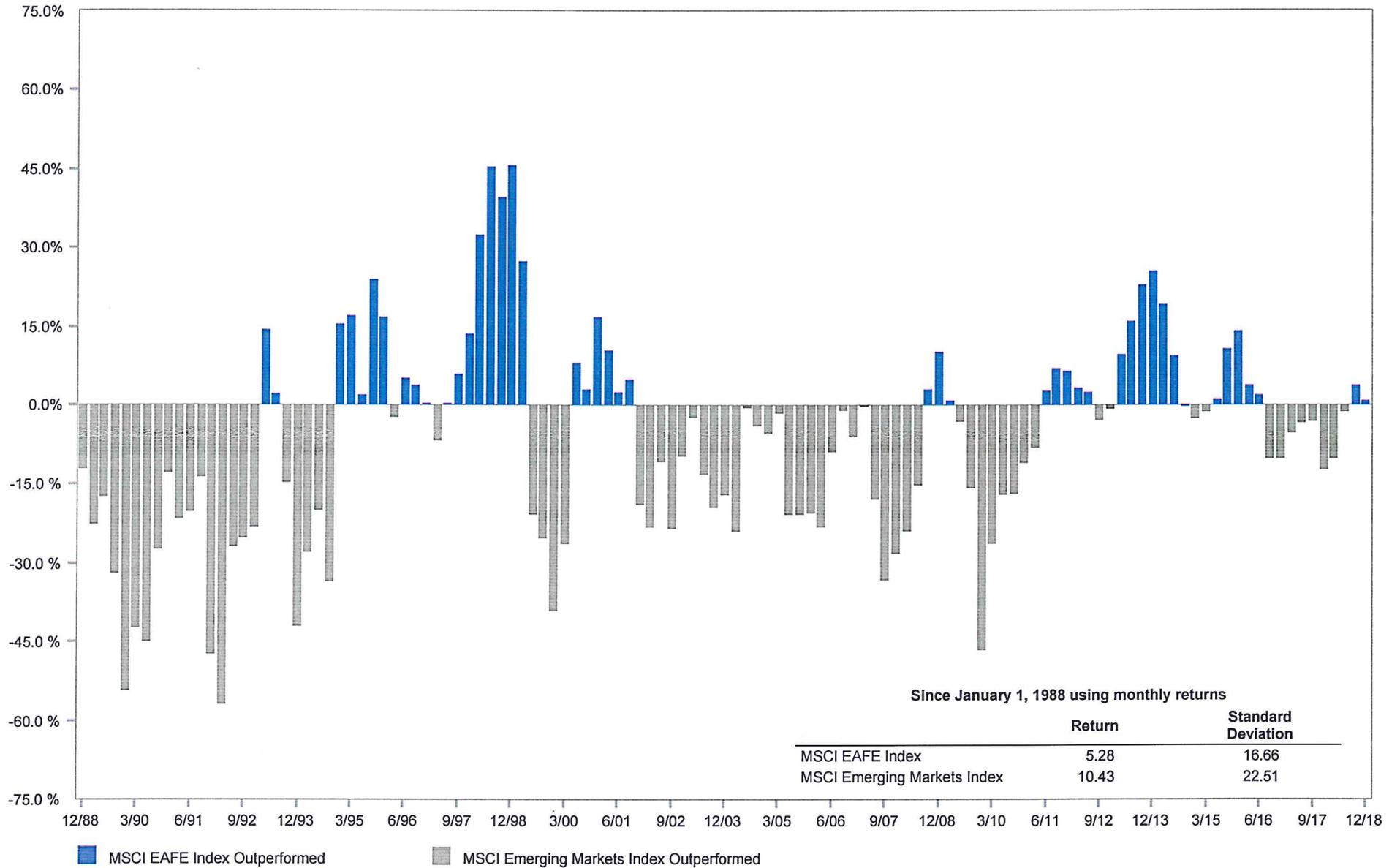
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Rolling Excess Performance
MSCI EAFE Index and MSCI Emerging Markets Index
 12 Months Rolling Periods From January 1, 1988 To December 31, 2018

Rolling Excess Performance



Source: Investment Metrics

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